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124 - PROCEDURES FOR DECISION MAKING

Subpart A - General Program Requirements

124.1 Purpose and scope

(a) This part contains procedures for issuing, modifying, revoking and reissuing, or terminating all hazardous waste treatment, storage, and disposal facility permits under these regulations, other than "emergency permits" (see 270.61) and "permits by rule" (270.60). The latter kinds of permits are governed by part 270. Interim status is not a "permit" and is covered by specific provisions in part 270. The procedures of this part also apply to denial of a permit for the active life of a RCRA hazardous waste management facility or unit under 270.29. (12/93).

(b) This regulation describes the steps which will be followed in receiving permit applications, preparing draft permits, issuing public notice, inviting public comment and holding public hearings on draft permits. Also covered is assembling an administrative record, responding to comments, issuing a final permit decision, and allowing for administrative appeal of the final permit decision (11/90, 12/92, 12/93).

124.2 Definitions

(a) In addition to the definitions given in 270.2 and S.C. Hazardous Waste Management Act Section 44-56-20, the definitions listed below apply to this Part. Terms not defined in this section have the meaning given by the appropriate Act.

"Administrator" means the Administrator of the U.S. Environmental Protection Agency, or an authorized representative (12/92).

"Applicable standards and limitations" means all State, interstate, and Federal standards and limitations to which a "discharge," a "sludge or disposal practice" or a related activity is subject under the CWA, including "standards for sewage sludge use or disposal," "effluent limitations," water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of CWA. (11/90; 12/92)

"Application" means the forms for applying for a permit under these regulations, including any additions, revisions, or modifications to the forms. Application also includes the information required under parts 270.14 through 270.29 (contents of Part B of the RCRA application) (12/92).

"Appropriate act and regulations" means the S. C. Pollution Control Act (PCA); the S.C. Hazardous Waste Management Act, or S.C. State Safe Drinking Water Act, whichever is applicable; and applicable regulations promulgated under those statutes.

"CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act of Federal Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217 and Pub. L. 95-576; 33 U.S.C. 1251 et seq (12/92).

"Draft permit" means a document prepared under 124.6 indicating the Department's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit and a notice of intent to deny a permit as discussed in 124.5, are types of "draft permits." A denial of a request for modification, revocation, and reissuance or termination, as discussed in 124.5, is not a "draft permit." A "proposal permit" is not a "draft permit" (12/92; 12/93).

"EPA" means the U. S. Environmental Protection Agency (12/92).

"Facility or activity" means any HWM facility or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the RCRA program and the Pollution Control Act (12/93).

"Indian Tribe" means (except in the case of RCRA) any Indian Tribe having a Federally recognized governing body carrying out substantial governmental duties and powers over a defined area (12/93).

"Interstate agency" means an agency of two or more States established by or under an agreement or compact approved by the Congress, or any other agency of two or more States having substantial powers or duties pertaining to the control of pollution as determined and approved by the Department under the "appropriate Act and regulations." (12/93)

"Major facility" means any RCRA "facility or activity" classified as such by the Department (12/93).

"Owner or operator" means owner or operator of any facility or activity subject to regulation under the RCRA program and the Pollution Control Act (12/92).

"Permit" means an authorization, license, or equivalent control document issued by South Carolina to implement the requirements of this part and 270. Permit includes RCRA "permit by rule" (270.60). Permit does not include RCRA interim status (270.70) or any permit which has not yet been the subject of final agency action, such as a "draft permit" or a "proposed permit" (12/92).

"Person" means an individual, association, partnership, corporation, municipality, State, Federal, or Tribal agency, or an agency or employee thereof (12/92).

"RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609, 42 U.S.C. 6901 et seq) (12/92).

"Regional Administrator" means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator (12/93).

"Schedule of compliance" means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the appropriate Act and regulations (12/92).

"SDWA" means the Safe Drinking Water Act (Pub. L. 95-523, as amended by Pub. L. 95-1900; 42 U.S.C. 300f *et seq*.)

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity (12/92).

"State Safe Drinking Water Act" means 44-55-10 *et seq* (12/92).

"Variance" means any mechanism or provision which allows modification to or waiver of the generally applicable requirements of 124, 270, 260 through 266.

(b) For the purposes of part 124, the term "Department" means the Department or Regional Administrator and is used when the accompanying provision is required of EPA-administered programs and of State programs under 40 CFR 271.14 (RCRA). The term "Regional Administrator" is used when the accompanying provision applies exclusively to EPA-issued permits and is not applicable to State programs under these sections. While South Carolina is not required to implement these latter provisions, they are not precluded from doing so, notwithstanding use of the term "Regional Administrator" (12/93).

(c) The term "formal hearing" means any evidentiary hearing under subpart E or any panel hearing under subpart F but does not mean a public hearing conducted under 124.12 (12/93).

124.3 Application for a permit

(a) (1)Any person who requires a permit under these regulations shall complete, sign, and submit to the Department an application for each permit required under 270.1 and meet the public notice requirements under 124.10. Applications are not required for permits by rule 270.60 (6/89; 12/92).

(2) The Department shall not begin the processing of a permit under these regulations until the applicant has fully complied with the application requirements for that permit. See 270.10, .11, and .13, Subpart B and applicable sections of R-61-79.264 which describe the information required in permit applications. (11/90; 6/95)

(3) Permit applications must comply with the signature and certification requirements of 270.11.

(b) [Reserved]

(c) The Department shall review for completeness every application for a permit under these regulations. Each application for a permit submitted by a new HWM

facility should be reviewed for completeness by the Department within 30 days of its receipt. Each application for a permit submitted by an existing HWM facility (both Parts A and B of the application), should be reviewed for completeness within 60 days of receipt. Upon completing the review, the Department shall notify the applicant in writing whether the application is complete. If the application is incomplete, the Department shall list the information necessary to make the application complete. When the application is for an existing HWM facility, the Department shall specify in the notice of deficiency a date for submitting the necessary information. After the application is completed, the Department may request additional information from an applicant but only where necessary to clarify, modify, or supplement previously submitted material. Requests for such additional information will not render an application incomplete. (11/90)

(d) If an applicant fails or refuses to correct deficiencies in the application, the permit may be denied and appropriate enforcement actions may be taken under the applicable statutory provisions of SC 44-56-140 and RCRA section 3008 (12/92).

(e) If the Department decides that a site visit is necessary for any reason in conjunction with the processing of an application, it will notify the applicant and a date shall be scheduled.

(f) The effective date of an application is the date on which the Department notifies the applicant that the application is complete as provided in paragraph (c) of this section.

124.4 [Reserved]

124.5 Modification, revocation & reissuance, termination of permits under these regulations

(a) Permits may be modified, revoked and reissued, or terminated either at the request of any interested person (including the permittee) or upon the Department's initiative. However, permits may only be modified, revoked and reissued, or terminated for the reasons specified in 270 Subpart D. All requests shall be in writing and shall contain facts or reasons supporting the request. The requirements of this section do not apply to transporter permits.

(b) If the Department decides the request is not justified, it will send the requester a brief written response giving a reason for the decision. Denials of requests for modification, revocation and reissuance, or termination are not subject to public notice, comment, or hearings. Denials by the Department may be appealed by requesting of the Board of Health and Environmental Control an adjudicatory hearing as specified under R.61-72 Section II within 15 days of the date of the decision. (12/92).

(c) (1) If the Department tentatively decides to modify or revoke and reissue a permit under 270 Subpart D, it will prepare a draft permit under 124.6 incorporating the proposed changes. The Department may request additional information and, in the case of a modified permit, may require the submission of an updated permit application. In the case of revoked and reissued permits, the Department shall require the submission of a new application.

(2) In a permit modification under this section, only those conditions to be modified shall be reopened when a new draft permit is prepared. All other aspects of the existing permit shall remain in effect for the duration of the unmodified permit. When a permit is revoked and reissued under this section, the entire permit is reopened just as if the permit had expired and was being reissued. During any revocation and reissuance proceeding the permittee shall comply with all conditions of the existing permit until a new final permit is reissued.

(3) "Class 1 and 2 modifications" as defined in 270 Subpart D are not subject to the requirements of this section. (6/97)

(d) If the Department tentatively decides to terminate a permit other than at the request of the permittee, it shall issue a notice of intent to terminate. A notice of intent to terminate is a type of draft permit which follows the same procedures as any draft permit prepared under 124.6. (10/01)

(e) When the Department is the permitting authority, all draft permits (including notices of intent to terminate) prepared under this section shall be based on the administrative record as defined in 124.9 (12/93).

(f) A generator shipping hazardous waste offsite must either be permitted to transport or utilize a transporter permitted pursuant to 263. (6/89)

124.6 Draft permits under these regulations.

(a) Once an application is complete, the Department shall tentatively decide whether to prepare a draft permit or to deny the application.

(b) If the Department tentatively decides to deny the permit application, it shall issue a notice of intent to deny. A notice of intent to deny the permit application is a type of draft permit which follows the same procedures as any draft permit prepared under this section. See 124.6(e). If the Department's final decision (124.15) is that the tentative decision to deny the permit application was incorrect, it shall withdraw the notice of intent to deny and proceed to prepare a draft permit under paragraph (d) of this section (12/92; 12/93).

(c) If the Department decides to prepare a draft permit, the Department shall prepare a draft permit that contains the following information:

(1) The approved permit application;

(2) All conditions under 270.30 and 270.32;

(3) All compliance schedules under 270.33;

(4) All monitoring requirements under 270.31 which have not been specified in the permit applications; and

(5) Any condition established under 270.32 necessary to achieve compliance with applicable standards for treatment, storage and/or disposal. Standards for treatment, storage, and/or disposal and other permit conditions under 270.30 (12/93).

(d) All draft permits prepared by the Department under this section shall be accompanied by a fact sheet (124.8), shall be based on the administrative record (124.9), publicly noticed (124.10) and made available for public comment (124.11). The Department shall give notice of opportunity for a public hearing (124.12), issue a final decision (124.15), and respond to comments (124.17). An appeal may be taken under 124.19. Draft permits prepared by the Department shall be accompanied by a fact sheet if required under 124.8 (12/92; 12/93).

124.7 [Reserved]

124.8 Fact sheet

(a) The Department shall prepare a fact sheet for every draft permit for a HWM facility or activity. The fact sheet shall briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. The Department shall send this fact sheet to the applicant and, on request, to any other person (12/93).

(b) The fact sheet shall include, when applicable:

(1) A brief description of the type of facility or activity which is the subject of the draft permit;

(2) The type and quantity of wastes, fluids, or pollutants which are proposed to be or are being treated, stored, or disposed of (12/93).

(3) A brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions.

(4) Provisions and appropriate supporting references to the administrative record required by 124.9 (12/92);

(5) Reasons why any requested variances or alternatives to required standards do or do not appear justified (12/92);

(6) A description of the procedures for reaching a final decision on the draft permit including (12/92):

(i) The beginning and ending dates of the comment period under 124.10 and the address where comments will be received;

(ii) Procedures for requesting a hearing and the nature of that hearing; and

(iii) Any other procedures by which the public may participate in the final decision.

(7) Name and telephone number of a person to contact for additional information (12/92).

124.9 Administrative record for draft permits under these regulations

(a) The provisions of a draft permit prepared by the Department under 124.6 shall be based on the administrative record defined in this section.

(b) For preparing a draft permit under 124.6, the record shall consist of:

(1) The application, if required, and any supporting data furnished by the applicant;

(2) The draft permit or notice of intent to deny the application or to terminate the permit;

(3) The fact sheet (124.8) (12/93);

(4) All documents cited in the fact sheet; and

(5) Other documents contained in the supporting file for the draft permit.

(c) Material readily available at the Department or published material that is generally available, and that is included in the administrative record under paragraphs (b) and (c) of this section, need not be physically included with the rest of the record as long as it is specifically referred to in the fact sheet (12/93).

124.10 Public notice of permit actions and public comment period

(a) Scope. Public notice of permit actions and public comment periods covered in this section apply only to treatment, storage, and disposal facilities under these regulations. (6/89; 6/97)

(1) The Department will give public notice when the following actions are to be taken:

(i) A draft permit has been prepared under 124.6; or

(ii) A hearing has been scheduled under 124.12;

(iii) A permit application has been tentatively denied under 124.6(b) (12/92);

(iv) An appeal has been granted under R.61-72 (12/93).

(2) No public notice will be given when a request for permit modification, revocation and reissuance, or termination is denied under 124.5(b). Written notice of that denial shall be given to the requestor and to the permittee. (11/90)

(3) Public notices may describe more than one permit or permit actions.

(4) The applicant will give public notice in accordance with 124.10 (c)(5) when an application for a permit is submitted to the Department. The applicant will give public notice of submittal of an application for a permit modification in accordance with 270.42. (6/89, 6/97)

(b) Timing.

(1) Public notice of the preparation of a draft permit (including a notice of intent to deny a permit application) required under paragraph (a) of this section shall allow at least 45 days for public comment (12/92).

(2) Public notice of a public hearing will be given at least 30 days before the hearing. Public notice of the hearing may be given at the same time as public notice of the draft permit and the two notices may be combined.

(c) Methods. Public notice of activities described in paragraphs (a)(1) and (a)(4) of this section shall be given by the following methods: (6/89; 6/95)

(1) By mailing a copy of a notice of draft permits or hearings to the following persons (any person otherwise entitled to receive notice under this paragraph may waive his or her rights to receive notice for any classes and categories of permits); (6/89; 12/93)

(i) The applicant and those identified in (5); (6/89)

(ii) Any other agency which the Department knows has issued or is required to issue a permit for the same facility or activity;

(iii) Federal and State agencies with jurisdiction over fish, shellfish, and wildlife resources and over coastal zone management plans, the Advisory Council on Historic Preservation, State Historic Preservation Officers, and other appropriate government authorities, including any affected States (Indian Tribes). (11/90; 12/92; 12/93)

(iv) Persons on a mailing list developed by:

(A) Including those who request in writing to be on the list;

(B) Soliciting persons for "area lists" from participants in past permit proceedings in that area; and

(C) Notifying the public of the opportunity to be put on the mailing list through periodic publication in the public press, and in such publications as Regional and State funded newsletters, environmental bulletins, State law journals. (The Department may update the mailing list from time to time by requesting written indication of continued interest from those listed. The Department may delete from the list the name of any person who fails to respond to such a request.) (12/93).

(v) (A) To any unit of local government having jurisdiction over the area where the facility is proposed to be located; and

(B) To each State agency having any authority under State law with respect to the construction or operation of such facility.

(2) Publication of a notice in a daily or weekly major local newspaper of general circulation and broadcast over local radio stations within the area affected by the facility or activity; (6/89 & 11/90)

(3) In a manner constituting legal notice to the public under state law; and

(4) Any other method reasonably calculated to give actual notice of the action in question to the persons potentially affected by it, including press releases or any other forum or medium to elicit public participation.

(5) Public notice of activities described in paragraph (a)(4) shall be given by the applicant by the following methods: (6/89)

(i) Notice to contiguous landowners, as determined by the tax rolls;

(ii) Notice to the county in which the facility site is located and all other political subdivisions within twenty miles of the site;

(iii) Notice to local daily and weekly newspapers within the area affected by the facility or activity, and the major newspaper in Columbia; and

(iv) Notice to the local Chamber of Commerce;

(v) A copy of the permit application to the public library in the county where the site is located.

(d) Contents.

(1) All public notices. All public notices issued under this part shall contain the following minimum information:

(i) Name and address of the office processing the permit action for which notice is being given;

(ii) Name and address of the permittee or permit applicant and, if different, of the facility or activity regulated by the permit;

(iii) A brief description of the business conducted at the facility or activity described in the permit application or the draft permit;

(iv) Name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft permit or draft general permit, as the case may be, fact sheet, and the application; the location of the administrative record required by 124.9, the times at which the record will be open for public inspection, and a statement that all data submitted by the applicant is available as part of the administrative record (12/92); and

(v) A brief description of the comment procedures required by 124.11 and 124.12 and the time and place of any hearing that will be held, including a statement of procedures to request a hearing (unless a hearing has already been scheduled) and other procedures by which the public may participate in the final permit decision.

(vi) Any additional information considered necessary or proper.

(2) Public notices for hearings. In addition to the general public notice described in paragraph (d)(1) of this section, the public notice of a hearing under 124.12 will contain the following information:

(i) Reference to the date of previous public notices relating to the permit;

(ii) Date, time, and place of the hearing;

(iii) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

124.11 Public comments and requests for public

hearings

During the public comment period provided under 124.10, any interested person may submit written comments on the draft permit or the permit application and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments shall be considered in making the final decision and shall be answered as provided in 124.17.

124.12 Public hearings

(a) (1) The Department shall hold a public hearing whenever the Department finds, on the basis of requests, a significant degree of public interest in a draft permit(s) under these regulations (12/92);

(2) The Department may also hold a public hearing at the Department's discretion, whenever for instance, such a hearing might clarify one or more issues involved in the permit decision;

(3) (i) The Department shall hold a public hearing whenever it receives written notice of opposition to a draft permit and a request for a hearing within 45 days of public notice under 124.10(b)(1) (12/93);

(ii) Whenever possible, the Department shall schedule a hearing under this section at a location convenient to the nearest population center to the proposed facility;

(4) Public notice of the hearing shall be given as specified in 124.10.

(b) Whenever a public hearing will be held and the Department is the permitting authority, the Department shall designate a Presiding Officer for the hearing who shall be responsible for its scheduling and orderly conduct.

(c) Any person may submit oral or written statements and data concerning the application and the draft permit during a hearing. Reasonable limits may be set upon the time allowed for oral statements, and the submission of statements in writing may be required. The public comment period under 124.10 shall automatically be extended to the close of any public hearing under this section. The hearing officer may also extend the comment period by so stating at the hearing.

(d) A tape recording or written transcript of the hearing shall be made available to the public.

(e) Public notice of any of the above actions shall be issued under 124.10 (11/90).

124.13 Obligation to raise issues and provide information during the public comment period

All persons, including applicants, who believe the issuance of a permit under these regulations or any condition of a draft permit is inappropriate or that the Department's tentative decision to deny an application, terminate a permit, or prepare a draft permit is inappropriate, must notify the Department in writing. This notification must contain all reasonably ascertainable issues, and submit all reasonably available arguments supporting their position by the close of the public comment period (including any public hearing) under 124.10, and factual grounds supporting their position, including any supporting materials which are not already part of the administrative record for the permit. This written notification must be submitted to the Department by the close of the public comment period provided under 124.10 (12/92; 12/93).

124.14 Reopening of the public comment period

(a) If any data, information, or arguments submitted during the public comment period, including information or arguments required under 124.13, appear to raise substantial new questions concerning a permit, the Department may take one or more of the following actions:

(1) Prepare a new draft permit, appropriately modified, under 124.6;

(2) Prepare a fact sheet under 124.8 and reopen the comment period under this section; or

(3) Reopen or extend the comment period under 124.10 to give interested persons an opportunity to comment on the information or arguments submitted.

(4) A comment period of longer than 45 days will often be necessary in complicated proceedings to give commenters a reasonable opportunity to comply with the requirements of this section. Commenters may request longer comment periods and they shall be granted under 124.10 to the extent they appear necessary (12/92).

(b) Comments filed during the reopened comment period shall be limited to the substantial new questions that caused its reopening. The public notice under 124.10 shall define the scope of the reopening.

(c) Public notice of any of the above actions shall be issued under 124.10.

124.15 Issuance and effective date of permit.

(a) After the close of the public comment period under 124.10 on a draft permit, the Department shall issue a final permit decision. The Department shall notify in writing the applicant and each person who has submitted written comments or requested notification of the final permit decision. This notice shall include reference to the procedures for appealing a decision on a permit or for contesting a decision to terminate a permit. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit (12/92).

(b) Permit denials will be public noticed by the Department in accordance with 124.10(c)(1) and (2). (11/90)

(c) A final permit decision shall become effective 30 days after the service of notification of the decision under paragraph (a) of this section, unless:

(1) A later effective date is specified in the decision; or

(2) A request for an adjudicatory hearing, as specified under R.61-72 Section II, is served on the Board within fifteen (15) days after notification of the final permit decision by the Department; or

(3) No comments requested a change in the draft permit, in which case the permit shall become effective immediately upon issuance.

124.16 [Reserved]

124.17 Response to comments

(a) At the time that any final permit decision under these regulations is issued under 124.15, the Department shall issue a response to comments. States are only required to issue a response to comments when a final permit is issued. This response shall (12/92; 12/93):

(1) Specify which provisions, if any, of the draft permit have been changed in the final permit decision, and the reasons for the change; and

(2) Briefly describe and respond to all significant comments on the draft permit or the permit application raised during the public comment period, or during any hearing.

(b) Any documents cited in the response to comments shall be included in administrative record for the final permit decision as defined in 124.18. If new points are raised or new material supplied during the public comment period, the Department may document its responses to those matters by adding new materials to the administrative record.

(c) The response to comments shall be available to the public.

124.18 Administrative record for final permit under these regulations (12/92).

(a) The Department will base final permit decisions under 124.15 on the administrative record defined in this section.

(b) The administrative record for any final permit shall consist of the administrative record for the draft permit and:

(1) All comments received during the public comment period provided under 124.10 (including any extension or reopening under (124.14);

(2) The tape or transcript of any hearing(s) held under 124.12;

(3) Any written materials submitted at such a hearing;

(4) The responses to comments required by 124.17 and any new material placed in the record under that section;

(5) Other documents contained in the supporting file for the permit; and

(6) The final permit.

(c) The additional documents required under paragraph (b) of this section should be added to the record as soon as possible after their receipt or publication by the Department. The record shall be complete on the date the final permit is issued (12/92).

(d) This section applies to all final permits when the draft permit was subject to the administrative record requirements of 124.9.

(e) Material readily available at the Department, or published materials which are generally available and which are included in the administrative record under the standards of this section or of 124.17 ("Response to comments"), need not be physically included in the same file as the rest of the record as long as it is specifically referred to in the statement of basis or fact sheet or in the response to comments (12/93).

124.19 Appeal of Permit

[See also R.61-72, Section II].

A Department decision involving the issuance, denial, renewal, modification, suspension, or revocation of a permit, license, certificate or certification may be appealed by an affected person with standing pursuant to applicable law, including S.C. Code Title 44, Chapter 1; Title 1, Chapter 23; and Title 40, Chapter 61.

Any person to whom an order is issued may appeal it pursuant to applicable law, including S.C. Code Title 44, Chapter 1; Title 1, Chapter 23; and Title 40, Chapter 61. (6/08)

Subpart B - Specific Procedures Applicable to RCRA Permits (9/98)

124.31 Pre-application public meeting and notice.

(a) Applicability. The requirements of this section shall apply to all RCRA part B applications seeking initial permits for hazardous waste management units. The requirements of this section shall also apply to RCRA part B applications seeking renewal of permits for such units, where the renewal application is proposing a significant change in facility operations. For the purposes of this section, a “significant change” is any change that would qualify as a class 3 permit modification under 270.42. The requirements of this section do not apply to permit modifications under 270.42 or to applications that are submitted for the sole purpose of conducting post-closure activities or post-closure activities and corrective action at a facility.

(b) Prior to the submission of a part B RCRA permit application for a facility, the applicant must hold at least one meeting with the public in order to solicit questions from the community and inform the community of proposed hazardous waste management activities. The applicant shall post a sign-in sheet or otherwise provide

a voluntary opportunity for attendees to provide their names and addresses.

(c) The applicant shall submit a summary of the meeting, along with the list of attendees and their addresses developed under paragraph (b) of this section, and copies of any written comments or materials submitted at the meeting, to the Department as a part of the part B application, in accordance with 270.14(b).

(d) The applicant must provide public notice of the pre-application meeting at least 30 days prior to the meeting. The applicant must maintain, and provide to the Department upon request, documentation of the notice.

(1) The applicant shall provide public notice in all of the following forms:

(i) A newspaper advertisement. The applicant shall publish a notice, fulfilling the requirements in paragraph (d)(2) of this section, in a newspaper of general circulation in the county or equivalent jurisdiction that hosts the proposed location of the facility. In addition, the Department shall instruct the applicant to publish the notice in newspapers of general circulation in adjacent counties or equivalent jurisdictions, where the Department determines that such publication is necessary to inform the affected public. The notice must be published as a display advertisement.

(ii) A visible and accessible sign. The applicant shall post a notice on a clearly marked sign at or near the facility, fulfilling the requirements in paragraph (d)(2) of this section. If the applicant places the sign on the facility property, then the sign must be large enough to be readable from the nearest point where the public would pass by the site.

(iii) A broadcast media announcement. The applicant shall broadcast a notice, fulfilling the requirements in paragraph (d)(2) of this section, at least once on at least one local radio station or television station. The applicant may employ another medium with prior approval of the Department.

(iv) A notice to the Department. The applicant shall send a copy of the newspaper notice to the Department and to the appropriate units of State and local government, in accordance with Sec. 124.10(c)(1)(v).

(2) The notices required under paragraph (d)(1) of this section must include:

(i) The date, time, and location of the meeting;

(ii) A brief description of the purpose of the meeting;

(iii) A brief description of the facility and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the facility location;

(iv) A statement encouraging people to contact the facility at least 72 hours before the meeting if they need special access to participate in the meeting; and

(v) The name, address, and telephone number of a contact person for the applicant.

124.32 Public notice requirements at the application stage.

(a) Applicability. The requirements of this section shall apply to all RCRA part B applications seeking initial permits for hazardous waste management units. The requirements of this section shall also apply to RCRA part B applications seeking renewal of permits for such units under 270.51. The requirements of this section do not apply to permit modifications under 270.42 or permit applications submitted for the sole purpose of conducting post-closure activities or post-closure activities and corrective action at a facility.

(b) Notification at application submittal.

(1) The Department shall provide public notice as set forth in Sec. 124.10(c)(1)(iv), and notice to appropriate units of State and local government as set forth in Sec. 124.10(c)(1)(v), that a part B permit application has been submitted to the Department and is available for review.

(2) The notice shall be published within a reasonable period of time after the application is received by the Department. The notice must include:

(i) The name and telephone number of the applicant's contact person;

(ii) The name and telephone number of the Department contact office, and a mailing address to which information, opinions, and inquiries may be directed throughout the permit review process;

(iii) An address to which people can write in order to be put on the facility mailing list;

(iv) The location where copies of the permit application and any supporting documents can be viewed and copied;

(v) A brief description of the facility and proposed operations, including the address or a map (e.g., a sketched or copied street map) of the facility location on the front page of the notice; and

(vi) The date that the application was submitted.

(c) Concurrent with the notice required under Sec. 124.32(b) of this subpart, the Department must place the permit application and any supporting documents in a location accessible to the public in the vicinity of the facility or at the Department's office.

124.33 Information repository.

(a) Applicability. The requirements of this section apply to all applications seeking RCRA permits for hazardous waste management units over which Department has permit issuance authority.

(b) The Department may assess the need, on a case-by-case basis, for an information repository. When

assessing the need for an information repository, the Department shall consider a variety of factors, including: the level of public interest; the type of facility; the presence of an existing repository; and the proximity to the nearest copy of the administrative record. If the Department determines, at any time after submittal of a permit application, that there is a need for a repository, then the Department shall notify the facility that it must establish and maintain an information repository. (See 270.30(m) for similar provisions relating to the information repository during the life of a permit).

(c) The information repository shall contain all documents, reports, data, and information deemed necessary by the Department to fulfill the purposes for which the repository is established. The Department shall have the discretion to limit the contents of the repository.

(d) The information repository shall be located and maintained at a site chosen by the facility. If the Department finds the site unsuitable for the purposes and persons for which it was established, due to problems with the location, hours of availability, access, or other relevant considerations, then the Department shall specify a more appropriate site.

(e) The Department shall specify requirements for informing the public about the information repository. At a minimum, the Department shall require the facility to provide a written notice about the information repository to all individuals on the facility mailing list.

(f) The facility owner/operator shall be responsible for maintaining and updating the repository with appropriate information throughout a time period specified by the Department. The Department may close the repository at his or her discretion, based on the factors in paragraph (b) of this section.

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260 - HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

Subpart A - General

260.1 Purpose, scope, and applicability

(a) This part provides definitions of terms, general standards, and overview information applicable to 260 through 266 and 268 (12/92).

(b) In this part:

(1) Section 260.2 sets forth the rules that the Department will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities must follow to assert claims of business confidentiality with respect to information that is submitted to the Department under 260 through 266 and 268 (12/92).

(2) Section 260.3 establishes rules of grammatical construction for 260 through 266 and 268 (12/92).

(3) Section 260.10 defines terms which are used in 260 through 266 and 268 (12/92).

(4) Section 260.20 establishes procedures for petitioning the Department to amend, modify, or revoke any provision of 260 through 266 and 268 and establishes procedures governing the Department's action on such petitions (12/92).

(5) Section 260.21 establishes procedures for petitioning the Department to approve testing methods as equivalent to those prescribed in 261, 264 or 265 (12/92).

(6) Section 260.22 establishes procedures for petitioning the Department to amend subpart D of 261 to exclude a waste from a particular facility.

260.2 Availability of information; confidentiality of information

(a) Any information provided to the Department under 260 through 266 and 268 will be made available to the public to the extent and in the manner authorized by the Freedom of Information Act, Section 30-4-10 *et seq*. of the S.C. Code of Law of 1976 as amended, or 5 U.S.C. section 552, section 3007(b) of RCRA or EPA regulations implementing the Freedom of Information Act, or section 3007(b), 40 CFR part 2 of RCRA as applicable. (12/92, 12/93).

(b) Any person who submits information to the Department in accordance with 260 through 266 and 268 may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in 30-4-10 *et seq.* and 40 CFR 2.203(b). Information covered by such a claim will be disclosed by the Department only to the extent, and by means of the provisions contained in the Freedom of Information Acts SC 30-4-10 *et seq.*, and by means of the procedures, set forth in 40 CFR Chapter 1, part 2, subpart B, except that information required by 262.53(a) and 262.83 that is submitted in a notification of intent to export a hazardous waste will be provided to the U. S. Department of State and the appropriate authorities in the transit and receiving or importing countries regardless of any claims of confidentiality. However, if no such claim accompanies the information when it is received by the Department, it may be made available to the public without further notice to the person submitting it (12/92; 12/93, 9/98).

260.3 Use of number and gender

As used in 260 through 266 and 268 (12/92):

(a) Words in the masculine gender also include the feminine and neuter genders; and

(b) Words in the singular include the plural; and

(c) Words in the plural include the singular.

Subpart B - Definitions

260.10 Definitions

When used in 260 through 266, 268, 270, and 273, the following terms have the meanings given below (12/92, 5/96):

"Aboveground tank" means a device meeting the definition of "tank" in 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

"Act" means the S.C. Hazardous Waste Management Act, Section 44-56-10 *et seq*. of the Code of Laws of 1976 as amended or the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 *et seq*. (12/93).

"Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the Department receives certification of final closure.

"Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of part 261 and which is not a closed portion (see also "closed portion" and "inactive portion") (12/93).

“Administrator” means the Administrator of the Environmental Protection Agency, or his designee (12/93).

"Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal offsite.

"Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of groundwater to wells or springs.

"Authorized representative" means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

"Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed. (5/96)

"Board" means the South Carolina Board of Health and Environmental Control.

"Boiler" means an enclosed device using controlled flame combustion and having the following characteristics:

(1) (i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery section(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Department has determined, on a case-by-case basis, to be a boiler, after considering the standards in section 260.32.

"Carbon regeneration unit" means any enclosed thermal treatment device used to regenerate spent activated carbon (12/92).

"Certification" means a statement of professional opinion based upon knowledge and belief.

"Certified Laboratory" means a laboratory that has been approved by the Department to perform specific analyses referenced in 260 through 270. Laboratory certification is necessary for parameters of interest under SW-846 and other methods approved by EPA (5/95).

"Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

"Commissioner" means the commissioner of the Department or his authorized agent.

"Component" means either the tank or ancillary equipment of a tank system.

"Conditionally exempt small quantity generators" generate less than 100 kg hazardous waste in a month (11/90).

"Confined Aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined groundwater.

"Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

"Containment building" means a hazardous waste management unit that is used to store or treat hazardous waste under the provisions of subpart DD of 264 or 265 (12/93).

"Contingency plan" means a document setting out an organized, planned and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

"Corrosion expert" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

"Department" means the Department of Health and Environmental Control, including personnel thereof authorized by the Board to act on behalf of the Department or Board.

“Designated facility” means:

(1) A hazardous waste treatment, storage, or disposal facility which:

(i) has received a permit (or interim status) in accordance with the requirements of parts 270 and 124 of these regulations, or

(ii) has received a permit (or interim status) from a state authorized in accordance with part 271 of this chapter; or

(iii) is regulated under 261.6(c)(2) or subpart F of part 266 and

(iv) that has been designated on the manifest by the generator pursuant to 262.20.

(2) Designated facility also means a generator site designated on the manifest to receive its waste as a return shipment from a facility that has rejected the waste in accordance with 264.72(f) or 265.72(f) of this chapter.

(3) If a waste is destined to a facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving state to accept such waste. (12/92; 12/93; 12/94; 6/95, 2/07).

"Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in paragraphs (a) and (c) of 273.13 and 273.33 of this chapter. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste. (5/96)

"Dike" means an embankment or ridge of either natural or man made materials used to prevent the movement of liquids, sludges, solids, or other materials.

"Dioxins and furans" (D/F) means tetra, penta, hexa, hepta, and octa-chlorinated dibenzo dioxins and furans.

"Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including groundwaters (12/92).

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed. (12/93)

"Drip pad is an engineered structure consisting of a curbed, free-draining base, constructed of nonearthen materials and designed to convey preservative kick-back or drippage from treated wood, precipitation, and surface water runon to an associated collection system at wood preserving plants." (12/92)

"Elementary neutralization unit" means a device which:

(1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in 261.22, or they are listed in subpart D of 261 of the chapter only for this reason (12/92); and

(2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in 260.10 (11/90, 12/92).

"EPA" means the U. S. Environmental Protection Agency.

"EPA hazardous waste number" means the number assigned by EPA to each hazardous waste listed in 261, subpart D, and to each characteristic identified in 261 subpart C.

"EPA identification number" means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

"Equivalent method" means any testing or analytical method approved by the Department under 260.20 and 260.21 (12/93).

"Existing hazardous waste management (HWM) facility" or "Existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction (12/92); and either

(2) (i) A continuous onsite, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations - which cannot be canceled or modified without substantial loss - for physical construction of the facility to be completed within a reasonable time.

"Existing portion" means that land surface area of an existing waste management unit, included in the original part A permit application, on which wastes have been placed prior to the issuance of a permit (12/92).

"Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either

(1) a continuous onsite physical construction or installation program has begun, or

(2) the owner or operator has entered into contractual obligations - which cannot be canceled or modified without substantial loss - for physical construction of the site or installation of the tank system to be completed within a reasonable time.

"Explosives or munitions emergency" means a situation involving the suspected or detected presence of unexploded ordnance (UXO), damaged or deteriorated explosives or munitions, an improvised explosive device (IED), other potentially explosive material or device, or other potentially harmful military chemical munitions or device, that creates an actual or potential imminent threat to human health, including safety, or the environment, including property, as determined by an explosives or munitions emergency response specialist. Such situations may require immediate and expeditious action by an explosives or munitions emergency response specialist to control, mitigate, or eliminate the threat. (9/98)

"Explosives or munitions emergency response" means all immediate response activities by an explosives and munitions emergency response specialist to control, mitigate, or eliminate the actual or potential threat encountered during an explosives or munitions emergency. An explosives or munitions emergency response may include in-place render-safe procedures, treatment or destruction of the explosives or munitions and/or transporting those items to another location to be rendered safe, treated, or destroyed. Any reasonable delay in the completion of an explosives or munitions emergency response caused by a necessary, unforeseen, or uncontrollable circumstance will not terminate the explosives or munitions emergency. Explosives and munitions emergency responses can occur on either public or private lands and are not limited to responses at RCRA facilities. (9/98)

"Explosives or munitions emergency response specialist@ means an individual trained in chemical or conventional munitions or explosives handling, transportation, render-safe procedures, or destruction techniques. Explosives or munitions emergency response specialists include Department of Defense (DOD) emergency explosive ordnance disposal (EOD), technical escort unit (TEU), and DOD-certified civilian or contractor personnel; and other Federal, State, or local government, or civilian personnel similarly trained in explosives or munitions emergency responses. (added 9/98)

"Facility" means: (1) All contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them) (12/92). (2) For the purpose of implementing corrective action under 264.101, all contiguous property under the control of the owner or operator seeking a permit under subtitle C of RCRA. This definition also applies to facilities implementing corrective action under RCRA Section 3008(h). (12/93) (3) Notwithstanding paragraph (2) of this definition, a remediation waste management site is not a facility that is subject to 264.101, but is subject to corrective action requirements if the site is located within such a facility. (8/00)

"Federal agency" means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

"Federal, State and local approvals or permits necessary to begin physical construction" means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations, or ordinances.

"Final closure" means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under parts 264 and 265 are no longer conducted at the facility unless subject to the provisions in 262.34.

"Foodchain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

"Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

"Freeboard" means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

“Gasification” For the purpose of complying with 40 CFR 261.4(a)(12)(i), gasification is a process, conducted in an enclosed device or system, designed and operated to process petroleum feedstock, including oil-bearing hazardous secondary materials through a series of highly controlled steps utilizing thermal decomposition, limited oxidation, and gas cleaning to yield a synthesis gas composed primarily of hydrogen and carbon monoxide gas. (5/10)

"Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in 261, or whose act first causes a hazardous waste to become subject to regulation.

"Groundwater" means water below the land surface in a zone of saturation.

"Hazardous waste" means a hazardous waste as defined in 261.3.

"Hazardous waste constituent" means a constituent that caused the Administrator to list the hazardous waste in 261 subpart D, or a constituent listed in table I of 261.24. (11/99)

"Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

"In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

"Inactive portion" means that portion of a facility which is not operated after November 19, 1980. (See also "active portion" and "closed portion") (12/93, 9/98).

"Incinerator" means any enclosed device that (12/92):

(1) Uses controlled flame combustion and neither meets the criteria for classification as a boiler, sludge dryer, or carbon regeneration unit, nor is listed as an industrial furnace; or

(2) Meets the definition of infrared incinerator or plasma arc incinerator.

"Incompatible waste" means a hazardous waste which is unsuitable for (12/92):

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases. (See parts 264 and 265, Appendix V, for examples.)

"Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

"Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use thermal treatment to accomplish recovery of materials or energy (12/92):

(1) Cement kilns

(2) Lime kilns

(3) Aggregate kilns

(4) Phosphate kilns

(5) Coke ovens

(6) Blast furnaces

(7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)

(8) Titanium dioxide chloride process oxidation reactors

(9) Methane reforming furnaces

(10) Pulping liquor recovery furnaces

(11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid

(12) Halogen acid furnaces (HAFs) for the production of acid from halogenated hazardous waste generated by chemical production facilities where the furnace is located on the site of a chemical production facility, the acid product has a halogen acid content of at least 3%, the acid product is used in a manufacturing process, and, except for hazardous waste burned as fuel, hazardous waste fed to the furnace has a minimum halogen content of 20% as-generated. (12/92)

(13) Such other devices as the Department may, after notice and comment, add to this list on the basis of one or more of the following factors:

(i) The design and use of the device primarily to accomplish recovery of material products;

(ii) The use of the device to burn or reduce raw materials to make a material product;

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

(v) The use of the device in common industrial practice to produce a material product; and

(vi) Other factors, as appropriate.

"Infrared incinerator" means any enclosed device that uses electric powered resistance heaters as a source of radiant heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace (12/92; 12/93).

"In-ground tank" means a device meeting the definition of "tank" in 260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

"Injection well" means a well into which fluids are injected. (see also "underground injection".)

"Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste (12/92).

"Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

"International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

"Laboratory" means any facility, including its agents or employees, that performs analyses related to environmental quality evaluations required by the Department or which will be officially submitted to the Department. The laboratory shall have equipment and instrumentation to enable the laboratory to conduct analyses for the tests for which application is made and for which the laboratory has been certified or approved by the Department to perform (6/95).

"Lamp," also referred to as "universal waste lamp," is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infrared regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps. (8/00)

"Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, a cave, or a corrective action management unit (11/90; 12/92; 12/93).

"Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

"Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

"Leachate" means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

"Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for

releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

"Liner" means a continuous layer of natural or man made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

"Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

“Manifest” means: the shipping document EPA Form 8700-22 (and if necessary, EPA Form 8700-22A), originated and signed by the generator or offeror in accordance with the instructions in the Appendix to 262 and the applicable requirements of 262 through 265.-(12/92; 12/93, 2/07).

“Manifest tracking number” means: the alphanumeric identification number (i.e. a unique three letter suffix preceded by nine numerical digits), which is pre-printed in Item 4 of the Manifest by a registered source. (2/07)

“Mercury-containing equipment” means: a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function (6/07)

"Military munitions" means all ammunition products and components produced or used by or for the U.S. Department of Defense or the U.S. Armed Services for national defense and security, including military munitions under the control of the Department of Defense, the U.S. Coast Guard, the U.S. Department of Energy (DOE), and National Guard personnel. The term military munitions includes: confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries used by DOD components, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. Military munitions do not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components thereof. However, the term does include non-nuclear components of nuclear devices, managed under DOE’s nuclear weapons program after all required sanitization operations under the Atomic Energy Act of 1954, as amended, have been completed. (9/98)

"Mining overburden returned to the mine site" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

"Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR part 146, containment building, corrective action management unit, unit eligible for a research, development, and demonstration permit under 270.65 or staging pile. (11/90, 12/92, 12/93, 8/00).

"Monitoring well" means a well used to obtain water samples for water quality analysis or to measure groundwater levels.

"Movement" means that hazardous waste transported to a facility in an individual vehicle.

"New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced after November 19, 1980. (See Also "Existing hazardous waste management facility".)

"New tank system" or "new tank component" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of 264.193(g)(2) and 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also "existing tank system.")

"NPDES" means National Pollutant Discharge Elimination System.

"On-ground tank" means a device meeting the definition of "tank" in 260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

"Onsite" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered onsite property (12/92)

"Open burning" means the combustion of any material without the following characteristics:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of emission of the gaseous combustion products. (See also "incineration" and "thermal treatment".)

"Operator" means the person responsible for the overall operation of a facility.

"Owner" means the person who owns a facility or part of a facility.

"Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of 264 and 265 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate (11/90; 12/92).

"Person" means an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body (12/92).

"Personnel" or "facility personnel" means all persons who work at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of 264 or 265.

"Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that: (5/96)

(1) Is a new animal drug under FFDCA section 201(w), or

(2) Is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(3) Is an animal feed under FFDCA section 201(x) that bears or contains any substances described by paragraph (1) or (2) of this definition.

"Pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage and that is not a containment building (12/93).

"Plasma arc incinerator" means any enclosed device using a high intensity electrical discharge or arc as a source of heat followed by an afterburner using controlled flame combustion and which is not listed as an industrial furnace (12/92; 12/93).

"Point source" means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

"Publicly owned treatment works" or "POTW" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment (12/92).

"Quarter" means a three- (3) month period ending on the last day of March, June, September, and December.

"Reporting Year" means the twelve-month time period starting on January 1 of each year and ending on the last day of December.

"Regional Administrator" means the Regional Administrator for the EPA Region in which the facility is located, or his designee (12/93).

"Remediation waste" means all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments), and debris that are managed for implementing cleanup. (12/93, 8/00, 6/03)

"Remediation waste management site" means a facility where an owner or operator is or will be treating, storing or disposing of hazardous remediation wastes. A remediation waste management site is not a facility that is subject to corrective action under 264.101, but is subject to corrective action requirements if the site is located in such a facility. (8/00)

"Replacement unit" means a landfill, surface impoundment, or waste pile unit (1) from which all or substantially all of the waste is removed, and (2) that is subsequently reused to treat, store, or dispose of hazardous waste. "Replacement unit" does not apply to a unit from which waste is removed during closure, if the subsequent reuse solely involves the disposal of waste from that unit and other closing units or corrective action areas at the facility, in accordance with an approved closure plan or EPA or State approved corrective action (12/93).

"Representative sample" means a sample of a universe or whole (e.g., waste pile, lagoon, groundwater) which can be expected to exhibit the average properties of the universe or whole.

"Runoff" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

"Runon" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

"Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

"Sludge" means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

"Sludge dryer" means any enclosed thermal treatment device that is used to dehydrate sludge and that has a maximum total thermal input, excluding the heating value of the sludge itself, of 2,500 Btu/lb of sludge treated on a wet-weight basis (12/92).

"Small quantity generator" means a generator who generates less than 1000 kg of hazardous waste in a calendar month (11/90; 12/92).

"Solid Waste" means a solid waste as defined in 261.2

"Sorbent" means a material that is used to soak up free liquids by either adsorption or absorption, or both.

"Sorb means to either adsorb or absorb, or both (12/93).

"South Carolina Underground Injection Control" R.61-87 (6/04)

"South Carolina Water Classification and Standards," R.61-68 (6/04)

"South Carolina Water Pollution Control Act" 48-1-10 *et seq.* (6/04)

"South Carolina Water Pollution Control Permits" R.61-9 (6/04)

"Staging pile" means an accumulation of solid, non-flowing remediation waste (as defined in this section) that is not a containment building and that is used only during remedial operations for temporary storage at a facility. Staging piles must be designated by the Department according to the requirements of 264.554. (8/00)

"State" means the State of South Carolina.

"State Primary Drinking Water" R.61-58 (6/04)

"State Safe Drinking Water Act" 44-55-10 *et seq.* (6/04)

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

"Sump" means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities; except that as used in the landfill, surface impoundment, and waste pile rules, "sump" means any lined pit or reservoir that serves to collect liquids drained from a leachate collection and removal system or leak detection system for subsequent removal from the system (12/93).

"Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, man made excavation, or diked area formed primarily of earthen materials (although it may be lined with man made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

"Tank" means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of nonearthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

"Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

"TEQ" means toxicity equivalence, the international method of relating the toxicity of various dioxin/furan congeners to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin.

"Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning".)

"Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury-containing ampules that have been removed from these temperature control devices in compliance with the requirements of 273.13(c)(2) or 273.33(c)(2). (5/96)

"These regulations" refers to all regulations contained under R.61-79 of the State Regulations which have been promulgated by the Board as authorized under Section 44-56-30 of the 1976 Code of Laws, as amended.

"Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

"Transfer facility" means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transport vehicle" means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

"Transportation" means the movement of hazardous waste by air, rail, highway, or water.

"Transporter" means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

"Treatability study" means a study in which a hazardous waste is subjected to a treatment process to determine: (1) Whether the waste is amenable to the treatment process, (2) what pretreatment (if any) is required, (3) the optimal process conditions needed to achieve the desired treatment, (4) the efficiency of a treatment process for a specific waste or wastes, or (5) the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the 261.4 (e) and (f) exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A "treatability study" is not a means to commercially treat or dispose of hazardous waste. (11/90)

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

"Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

"Underground injection" means the subsurface emplacement of fluids as defined in R.61-87 (12/92).

"Underground tank" means a device meeting the definition of "tank" in section 260.10 whose entire surface area is totally below the surface of and covered by the ground.

"Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

"Universal Waste" means any of the following hazardous wastes that are managed under the universal waste requirements of 273: (5/96; 8/00)

(1) Batteries as described in 273.2;

(2) Pesticides as described in 273.3;

(3) Mercury-containing equipment as described in 273.4; and (6/07)

(4) Lamps as described in 273.5 of this chapter.

"Universal Waste Handler": (5/96)

(1) Means:

(i) A generator (as defined in this section) of universal waste; or

(ii) The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(2) Does not mean:

(i) A person who treats (except under the provisions of 273.13 (a) or (c), or 273.33 (a) or (c)), disposes of, or recycles universal waste; or

(ii) A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

(3) Mercury-containing equipment as described in 273.4 of this chapter; and (6/07)

(4) Lamps as described in 273.5.

"Universal Waste Transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water. (5/96)

"Unsaturated zone or "zone of aeration" means the zone between the land surface and the water table.

"Uppermost aquifer" means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

"Used oil" means any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use, is contaminated by physical or chemical impurities (6/89; 12/93).

"Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water. (11/90)

"Wastewater treatment unit" means a device which:

(1) Is part of a wastewater treatment facility that is subject to regulation under The Pollution Control Act Sections 48-1-10 *et seq.* of the Code of Laws of 1976 as amended, and either section 402 or 307(b) of the Clean Water Act; and (11/90)

(2) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in 261.3, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined by Section 261.3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in Section 261.3 of these Regulations; and

(3) Meets the definition of tank or tank system in Section 260.10. (11/90; 12/92)

"Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

"Well" means any excavation which is cored, bored, drilled, jetted, dug or otherwise constructed the depth of which is greater than its largest surface dimension.

"Well injection" - see "underground injection".

"Zone of engineering control" means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to groundwater or surface water.

260.11 References

(a) When used in 260 through 270, the following publications are incorporated by reference. These references will be applied to necessary testing to be performed by a certified laboratory (6/95).

(1) "ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM Standard D-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(2) "ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(3) "ASTM Standard Method for Analysis of Reformed Gas by Gas Chromatography," ASTM Standard D 1946-82, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(4) "ASTM Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High Precision Method)," ASTM Standard D 2382-83, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(5) "ASTM Standard Practices for General Techniques of Ultraviolet Visible Quantitative Analysis," ASTM Standard E 169-87, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(6)"ASTM Standard Practices for General Techniques of Infrared Quantitative Analysis," ASTM Standard E 168-88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(7) "ASTM Standard Practice for Packed Column Gas Chromatography," ASTM Standard E 260-85, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(8) "ASTM Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography," ASTM Standard D 2267-88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

(9) "APTI Course 415: Control of Gaseous Emissions," EPA Publication EPA450/2-81-005, December 1981, available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

(10) "Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

(11) "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 [Third Edition (November 1986), as amended by Updates I, (dated July, 1992), II (dated September, 1994), IIA (dated August, 1993), IIB (dated January, 1995) and III] (dated December 1996) and IIIA (dated April 1998)]. The Third Edition of SW-846 and Updates I, II, IIA, IIB, and III (document number 955-001-0000-1) are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402, (202) 512-1800. Update IIIA is available through EPA's Methods Information Communication Exchange (MICE) Service. MICE can be contacted by phone at (703) 821-4690. Update IIIA can also be obtained by contacting the U.S. Environmental Protection Agency, Office of Solid Waste (5307W), OSW Methods Team, 1200 Pennsylvania Ave. NW, Washington, DC, 20460. Copies of the Third Edition and all of its updates are also

available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 605-6000 or (800) 553-6847. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC. (11/99; 8/00, 6/02)

(12) "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised," October 1992, EPA Publication No. EPA-450/R-92-019, Environmental Protection Agency, Research Triangle Park, NC. (12/94)

(13) "ASTM Standard Test Methods for Preparing Refuse-Derived Fuel (RDF) Samples for Analysis of Metals," ASTM Standard E926-88, Test Method C - Bomb, Acid Digestion Method, available from American Society for Testing Materials, 1916 Race Street, Philadelphia, PA 19103.

(14) "API Publication 2517, Third Edition," February 1989, "Evaporative Loss from External Floating-Roof Tanks," available from the American Petroleum Institute, 1220 L Street, Northwest, Washington, DC 20005.

(15) "ASTM Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteniscope," ASTM Standard D 2879-92, available from American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103.

(16) Method 1664, Revision A, n-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated n-Hexane Extractable Material (SGT-HEM; Non-polar Material) by Extraction and Gravimetry. Available at NTIS, PB99-949, U.S. Department of Commerce, 5285 Port Royal, Springfield, Virginia 22161. (8/00)

(b) The references listed in paragraph (a) of this section are also available for inspection at the Office of the Federal Register, 800 North Capitol Street NW, Suite 700, Washington DC. These incorporations by reference were approved by the Director of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the Federal Register (12/93, 9/98).

Subpart C - Rulemaking Petitions

260.20 General

(a) Any person may petition the Department to modify or revoke any provision in parts 260 through 266, 268 and 273. This section sets forth general requirements which apply to all such petitions. Section 260.21 sets forth additional requirements for petitions to add a testing or analytical method to part 261, 264 or 265. Section 260.22 sets forth additional requirements for petitions to exclude a waste or waste-derived material at a particular facility from 261.3 or the lists of hazardous wastes in subpart D of part 261. Section 260.23 sets forth additional requirements for petitions to amend 40 CFR 273 to include additional hazardous wastes or categories of hazardous waste as universal waste. (11/90, 12/92, 5/96).

(b) Each petition must be submitted to the Department by certified mail and must include:

(1) The petitioner's name and address;

(2) A statement of the petitioner's interest in the proposed action;

(3) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(4) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) The Department will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the State and Federal Registers for written public comment (12/92).

(d) Upon the written request of any interested person, the Department may, at its discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Department may in any case decide on its own motion to hold an informal public hearing (12/92).

(e) After evaluating all public comments the Department will make a final decision by publishing in the State Register a regulatory amendment or a denial of the petition (12/92).

260.21 Petitions for equivalent testing or analytical methods

(a) Any person seeking to add a testing or analytical method to part 261, 264, 265 or 266 may petition for a regulatory amendment under this section and 260.20. To be successful, the person must demonstrate to the satisfaction of the Department and the Regional Administrator of EPA that the proposed method is equal to or

superior to the corresponding method prescribed in 261, 264 and 265, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility) (12/92, 6/04).

(b) Each petition must include, in addition to the information required by section 260.20(b):

(1) A full description of the proposed method, including all procedural steps and equipment used in the method;

(2) A description of the types of wastes or waste matrices for which the proposed method may be used;

(3) Comparative results obtained from using the proposed method with those obtained from using the relevant or corresponding methods prescribed in 261, 264, or 265;

(4) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(5) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(c) After receiving a petition for an equivalent method, the Department and the Regional Administrator may request any additional information on the proposed method which he may reasonably require to evaluate the method. (6/04)

(d) If the USEPA amends the regulations to permit use of a new testing method, the method will be incorporated in "Test Methods for Evaluating Solid Waste: Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC 20460. As the Federal Regulations incorporate new testing methods, these will be incorporated by reference. (12/94; 6/95)

260.22 Petitions to amend part 261 to exclude a waste produced at a particular facility (11/90)

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in 261 subpart D may petition for a regulatory amendment under this section and section 260.20 to be successful: (12/92)

(1) The petitioner must demonstrate to the satisfaction of the Department and to the Regional Administrator that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste; and (06/04)

(2) Based on a complete application, the Department and the Regional Administrator must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of 261. (06/04)

(b) The procedures in this Section and 260.20 may also be used to petition the Department and the Regional Administrator for a regulatory amendment to exclude from 261.3(a)(2)(ii) or (c), a waste which is described in these Sections and is either a waste listed in subpart D, or is derived from a waste listed in subpart D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by paragraph (a) of this section. Where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, his demonstration must be made with respect to the waste mixture as a whole; analyses must be conducted for not only those constituents for which the listed waste contained in the mixture was listed as hazardous, but also for factors (including additional constituents) that could cause the waste mixture to be a hazardous waste. A waste which is so excluded may still be a hazardous waste by operation of subpart C of part 261. (11/90, 12/92, 06/04)

(c) If the waste is listed with codes "I," "C," "R," or "E" in 261 subpart D (moved 11/90),

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in 261.21, 261.22, 261.23, or 261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in 261.21, 261.22, 261.23, or 261.24 using any applicable methods prescribed therein; (11/90)

(2) Based on a complete application, the Department and the Regional Administrator must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of 261.

(d) If the waste is listed with code "T" in 261 subpart D, (11/90)

(1) The petitioner must demonstrate that the waste:

(i) Does not contain the constituent or constituents (as defined in appendix VII of 261) that caused the Department to list the waste, using the appropriate test methods prescribed in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 261.11; or (12/93)

(ii) Although containing one or more of the hazardous constituents (as defined in appendix VII of 261) that caused the Department and the EPA to list the waste, does not meet the criterion of 261.11 (a)(3) when considering the factors used by the Department and the EPA in 261.11(a)(3)(i) through (xi) under which the waste was listed as hazardous; and (06/04)

(2) Based on a complete application, the Department and the EPA must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and, (11/90, 12/92, 06/04))

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in sections 261.21, 261.22, 261.23, and 261.24 using any applicable methods prescribed therein; (11/90)

(4) A waste which is so excluded, however, still may be a hazardous waste by operation of subpart C of 261 (moved 11/90).

(e) If the waste is listed with the code "H" in subpart D (12/92; 12/93):

(1) The petitioner must demonstrate that the waste does not meet the criterion of 261.11 (a)(2); and

(2) Based on a complete application, the Department and the EPA must determine, where it has a reasonable basis to believe that additional factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and (06/04)

(3) The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in 261.21, 261.22, 261.23, and 261.24 using any applicable methods prescribed therein;

(4) A waste which is so excluded, however, still may be hazardous waste by operation of subpart C of 261.

(f) A waste which is excluded under paragraphs (a), (c), (d), and (e) still may be a hazardous waste by operation of 261 Subpart C.

(g) [Reserved]

(h) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

(i) Each petition must include, in addition to the information required by section 260.20(b):

(1) The name and address of the laboratory facility performing the sampling or tests of the waste;

(2) The names and qualifications of the persons sampling and testing the waste;

(3) The dates of sampling and testing;

(4) The location of the generating facility;

(5) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(6) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(7) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in 261.11(a)(3);

(8) A description of the methodologies and equipment used to obtain the representative samples;

(9) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;

(10) A description of the tests performed (including results);

(11) The names and model numbers of the instruments used in performing the tests; and

(12) The following statement signed by the generator of the waste or his authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(j) After receiving a petition for an exclusion, the Department and the EPA may request any additional information which it may reasonably require to evaluate the petition. (06/04)

(k) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(l) The Department and the EPA may exclude only part of the waste for which the demonstration is submitted where he has reason to believe that variability of the waste justifies a partial exclusion. (06/04)

(m)[Reserved 12/92]

Editorial Note: For information on the availability of a guidance manual for petitions to delist hazardous wastes, see 50 FR 21607, May 28, 1985 (12/93).

260.23 Petitions to amend 40 CFR part 273 to include additional hazardous wastes (5/96)

(a) Any person seeking to add a hazardous waste or a category of hazardous waste to the universal waste regulations of 40 CFR 273 may petition for a regulatory amendment under this section, 40 CFR 260.20, and subpart G of 40 CFR part 273.

(b) To be successful, the petitioner must demonstrate to the satisfaction of the Administrator that regulation under the universal waste regulations of 40 CFR part 273: Is appropriate for the waste or category of waste; will improve management practices for the waste or category of waste; and will improve implementation of the hazardous waste program. The petition must include the information required by 40 CFR 260.20(b). The petition should also address as many of the factors listed in 40 CFR 273.81 as are appropriate for the waste or category of waste addressed in the petition.

(c) The Administrator will grant or deny a petition using the factors listed in 40 CFR 273.81. The decision will be based on the weight of evidence showing that regulation under 40 CFR part 273 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

(d) The Administrator may request additional information needed to evaluate the merits of the petition.

260.24 - 260.29 [Reserved 5/96]

260.30 Variances from classification as a solid waste

In accordance with the standards and criteria in section 260.31 and the procedures in section 260.33 the Department may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(a) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in 261.1(c)(8);

(b) Materials that are reclaimed and then reused within the original production process in which they were generated; and (5/96)

(c) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

260.31 Standards and criteria for variances from classification as a solid waste

(a) The Department may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The Department's decision will be based on the following criteria: (5/96)

(1) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(2) The reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year;

(3) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(4) The extent to which the material is handled to minimize loss;

(5) Other relevant factors.

(b) The Department may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria: (5/96)

(1) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(2) The extent to which the material is handled before reclamation to minimize loss;

(3) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(4) The location of the reclamation operation in relation to the production process;

(5) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(6) Whether the person who generates the material also reclaims it;

(7) Other relevant factors.

(c) The Department may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and has to be reclaimed further). This determination will be based on the following factors:

(1) The degree of processing the material has undergone and the degree of further processing that is required;

(2) The value of the material after it has been reclaimed;

(3) The degree to which the reclaimed material is like an analogous raw material;

(4) The extent to which an end market for the reclaimed material is guaranteed;

(5) The extent to which the reclaimed material is handled to minimize loss;

(6) Other relevant factors.

260.32 Variance to be classified as a boiler

In accordance with the standards and criteria in section 260.10 (definition of "boiler"), and the procedures in section 260.33, the Department may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in section 260.10, after considering the following criteria:

(a) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(b) The extent to which the combustion chamber and energy recovery equipment are of integral design; and

(c) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(d) The extent to which exported energy is utilized; and

(e) The extent to which the device is in common and customary use as a "boiler" functioning primarily to produce steam, heated fluids, or heated gases; and

(f) Other factors, as appropriate.

260.33 Procedures for variances from classification as a solid waste or to be classified as a boiler

The Department will use the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed controlled flame combustion devices as boilers:(5/96)

(a) The applicant must apply to the Department for the variance. The application must address the relevant criteria contained in sections 260.31 or 260.32 (12/92; 5/96).

(b) The Department will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The Department will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at its discretion. The Department will issue a final decision after receipt of comments and after the hearing (if any). (5/96)

260.34 - 260.39 [Reserved]

260.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis

(a) The Department may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in 261.6(a)(2)(iii) should be regulated under 261.6 (b) and (c). The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Department will consider the following factors (12/92; 12/93):

(1) The types of materials accumulated or stored and the amounts accumulated or stored;

(2) The method of accumulation or storage;

(3) The length of time the materials have been accumulated or stored before being reclaimed;

(4) Whether any contaminants are being released into the environment, or are likely to be so released; and

(5) Other relevant factors. The procedures for this decision are set forth in section 260.41 of these Regulations.

260.41 Procedures for case-by-case regulation of hazardous waste recycling activities

The Department will use the following procedures when determining whether to regulate hazardous waste recycling activities described in 261.6(a)(2)(iii) under the provisions of 261.6 (b) and (c), rather than under the provisions of subpart F of 266 (12/92).

(a) If a generator is accumulating the waste, the Department will issue a notice setting forth the factual basis for the decision and stating that the person must comply with the applicable requirements of subparts A, C, D, and E of 262. The notice will become final within thirty (30) days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the Department will hold a public hearing. The Department will provide notice of the hearing to the public and allow public participation at the hearing. The Department will issue a final order after the hearing stating whether or not compliance with part 262 is required. The order becomes effective 30 days after service of the decision unless the Department specifies a later date or unless review by the Department is requested. The order may be appealed to the Department by any person who participated in the public hearing. The Department may choose to grant or to deny the appeal. Final Department action occurs when a final order is issued and Department review procedures are exhausted.

(b) If the person is accumulating the recyclable material as a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of 270 and 124. The owner or operator of the facility must apply for a permit within no less than 60 days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the Department's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the Department's determination. The question of whether the Department's decision was proper will remain open for consideration during the public comment period discussed under 124.11 and in any subsequent hearing.

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261 - IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Subpart A - General

261.1 Purpose and Scope

(a) This part identifies those solid wastes which are subject to regulation as hazardous wastes under Regulations R.61-79.124, .262 through .266, .268, .270, and 40 CFR 271, and which are subject to the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA. In this part: (11/90; 12/92)

(1) Subpart A defines the terms "solid waste" and "hazardous waste," identifies those wastes which are excluded from regulation under R.61-79.262 through 266, 268, and R.61-270, and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(2) Subpart B sets forth the criteria used by the Department to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subpart C identifies characteristics of hazardous waste.

(4) Subpart D lists particular hazardous wastes.

(b) (1) The definition of solid waste contained in this part applies only to wastes that also are hazardous for purposes of the regulations implementing the South Carolina Hazardous Waste Management Act 44-56-10 et seq and Subtitle C of RCRA. For example, it does not apply to materials (such as nonhazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled (12/92; 12/93).

(2) This part identifies only some of the materials which are solid wastes and hazardous wastes under SCHWMA 44-56-10 et seq. and sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this part, or is not a hazardous waste identified or listed in this part, is still a solid waste and a hazardous waste for purposes of these sections if:

(i) In the case of SCHWMA 44-56-90 and sections 3007 and 3013 of RCRA, the Department has reason to believe that the material may be a solid waste within the meaning of section 44-56-20(6) of the S.C. Code of Laws of 1976, as amended or a solid waste within the meaning of section 1004(27) of RCRA and a hazardous waste within the meaning of section 1004(5) of RCRA; or (11/90, 11/99)

(ii) In the case of SCHWMA 44-56-50 or RCRA section 7003, the statutory elements are established.

(c) For the purposes of sections 261.2 and 261.6:

(1) A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing;

(2) "Sludge" has the same meaning used in 260.10;

(3) A "by-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is "used or reused" if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(6) "Scrap metal" is bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is "recycled" if it is used, reused, or reclaimed.

(8) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that - during the calendar year (commencing on January 1) - the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (e.g., slags from a single smelting process) that is recycled in the same way (i.e., from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under section 261.4(c) are not to be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

(9) "Excluded scrap metal" is processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal. (9/98)

(10) "Processed scrap metal" is scrap metal which has been manually or physically altered to either separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to scrap metal which has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type (i.e., sorted), and, fines, drosses and related materials which have been agglomerated. (Note: shredded circuit boards being sent for recycling are not considered processed scrap metal. They are covered under the exclusion from the definition of solid waste for shredded circuit boards being recycled (261.4(a)(14)). (10/12)

(11) "Home scrap metal" is scrap metal as generated by steel mills, foundries, and refineries such as turnings, cuttings, punchings, and borings. (9/98)

(2) "Prompt scrap metal" is scrap metal as generated by the metal working/fabrication industries and includes such scrap metal as turnings, cuttings, punchings, and borings. Prompt scrap is also known as industrial or new scrap metal. (9/98)

(d) [Reserved 6/06]

261.2 Definition of solid waste

(a)(1) A solid waste is any discarded material that is not excluded by section 261.4(a) or that is not excluded by variance granted under 260.30 and 260.31.

(2) A discarded material is any material which is (12/92):

(i) Abandoned, as explained in paragraph (b) of this section; or

(ii) Recycled, as explained in paragraph (c) of this section; or

(iii) Considered inherently waste-like, as explained in paragraph (d) of this section; or (9/98)

(iv) A "military munition" identified as a solid waste in 266.202. (9/98)

(b) Materials are solid waste if they are abandoned by being:

(1) Disposed of; or

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

(c) Materials are solid wastes if they are recycled or accumulated, stored, or treated before recycling - as specified in paragraphs (c)(1) through (4) of this section.

(1) Used in a manner constituting disposal.

(i) Materials noted with an "x" in Column 1 of Table 1 are solid wastes when they are:

(A) Applied to or placed on the land in a manner that constitutes disposal; or

(B) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in section 261.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) Burning for energy recovery.

(i) Materials noted with an "x" in column 2 of Table 1 are solid wastes when they are:

(A) Burned to recover energy;

(B) Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in section 261.33 are not solid wastes if they are themselves fuels.

(3) Reclaimed. Materials noted with an "x" in column 3 of Table 1 are solid wastes when reclaimed. Materials noted with a "---" in column 3 of Table 1 are not solid wastes when reclaimed. (11/99, 8/00, 6/03).

(4) Accumulated speculatively. Materials noted with an "x" in column 4 of Table 1 are solid wastes when accumulated speculatively.

261.2 Table 1 Summary of definitions of Solid Waste

[Note: The terms "spent materials," "sludges," "by-products," and "scrap metal" are defined in 261.1.] (11/99)	Use Constituting Disposal 261.2(c)(1) (1)	Energy Recovery/ Fuel 261.2(c)(2) (2)	Reclamation 261.2(c)(3) (8/00)(except as provided in 261.4(a)(17) for mineral processing secondary metals) (3)	Speculative Accumulation 261.2(c)(4) (4)
Spent Materials	(x)	(x)	(x)	(x)
Sludges (listed in Section 261.31 or .32)	(x)	(x)	(x)	(x)
Sludges exhibiting a characteristic of hazardous waste	(x)	(x)	---	(x)
By-products (listed in Section 261.31 or .32)	(x)	(x)	(x)	(x)
By-products exhibiting a characteristic of hazardous waste	(x)	(x)	---	(x)
Commercial chemical products listed in Section 261.33	(x)	(x)	---	---
Scrap metal that is not excluded under 261.4(a)(13)	(x)	(x)	(x)	(x)

(d) Inherently waste-like materials. The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) Secondary materials fed to a halogen acid furnace that exhibit a characteristic of a hazardous waste or are listed as a hazardous waste as defined in subparts C or D of this part, except for brominated material that meets the following criteria: (12/92, 12/93)

(i) The material must contain a bromine concentration of at least 45%; and (12/93)

(ii) The material must contain less than a total of 1% of toxic organic compounds listed in appendix VIII; and (12/93)

(iii) The material is processed continually on-site in the halogen acid furnace via direct conveyance (hard piping). (12/93)

(3) The Department will use the following criteria to add wastes to that list (12/92):

(i)(A) The materials are ordinarily disposed of, burned, or incinerated; or

(B) The materials contain toxic constituents listed in Appendix VIII of 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) The material may pose a substantial hazard to human health and the environment when recycled.

(e) Materials that are not solid waste when recycled.

(1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed or land disposed; or (5/96)

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed or land disposed. The material must be returned as a substitute for feedstock materials. In cases where the original process to which the material is returned is a secondary process, the materials must be managed such that there is no placement on the land. In cases where the materials are generated and reclaimed within the primary mineral processing industry, the conditions of the exclusion found at 261.4(a)(17) apply rather than this paragraph. (5/96, 11/99; 8/00)

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1)(i) through (iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraphs (d)(1) and (d)(2) of this section. (12/93, 11/99)

(f) Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation. Respondents in actions to enforce regulations implementing the SC Hazardous Waste Management Act Sections 44-56-10 et seq. and Subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so (12/93, 11/99).

261.3 Definition of hazardous waste

(a) A solid waste, as defined in 261.2, is a hazardous waste if: (11/99)

(1) It is not excluded from regulation as a hazardous waste under 261.4(b); and (11/99)

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C of this part. However, any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C is a hazardous waste only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred, or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Toxicity Characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in Table 1 to 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred, or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture. (11/90, 12/93, 11/99)

(ii) It is listed in subpart D and has not been excluded from the lists in subpart D of this part under 260.20 and 260.22.

(iii) [Reserved 6/02]

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in subpart D of this part and has not been excluded from paragraph (a)(2) of this paragraph under 260.20 and 260.22, paragraph (g) of this section, or paragraph (h) of this section; however, the following mixtures of solid wastes and hazardous

wastes listed in subpart D of this part are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under the S. C. Pollution Control Act Section 48-1-10 et seq., of the S. C. Code of Laws of 1976, as amended and under either section 402 or section 307(b) of the Clean Water Act (including wastewater at facilities which have eliminated the discharge of wastewater) and: (11/90; 12/93, 6/02)

(A) One or more of the following spent solvents listed in section 261.31 - benzene, carbon tetrachloride, tetrachloroethylene, trichloroethylene or the scrubber waters derived-from the combustion of these spent solvents--- Provided, that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed 1 part per million; or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act, as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 1 part per million on an average weekly basis. Any facility that uses benzene as a solvent and claims this exemption must use an aerated biological wastewater treatment system and must use only lined surface impoundments or tanks prior to secondary clarification in the wastewater treatment system. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the Department. A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. (6/08)

A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Department. The Department may reject the sampling and analysis plan if the Department finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Department rejects the sampling and analysis plan or if the Department finds that the facility is not following the sampling and analysis plan, the Department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or (6/08)

(B) One or more of the following spent solvents listed in Section 261.31 - methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents, 2-ethoxyethanol, or the scrubber waters derived-from the combustion of these spent solvents - provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pre-treatment system does not exceed 25 parts per million; or the total measured concentration of these solvents entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 25 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file a copy of their sampling and analysis plan with the the Department as the context requires, or an authorized representative. A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Department. The Department may reject the sampling and analysis plan if the Department finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Department rejects the sampling and analysis plan or if the Department finds that the facility is not following the sampling and analysis plan, the Department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or (6/08)

(C) One of the following wastes listed in 261.32, provided that the wastes are discharged to the refinery oil recovery sewer before primary oil/water/solids separation heat exchanger bundle cleaning sludge from the petroleum refining industry (EPA Hazardous Waste No. K050), crude oil storage tank sediment from petroleum refining operations (EPA Hazardous Waste No. K169), clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (EPA Hazardous Waste No. K170), spent hydrotreating catalyst (EPA

Hazardous Waste No. K171), and spent hydrorefining catalyst (EPA Hazardous Waste No. K172); or (8/00)

(D) A discarded hazardous waste, commercial chemical product, or chemical intermediate listed in 261.31 through 261.33, arising from de minimis losses of these materials. For purposes of this paragraph (a)(2)(iv)(D), "de minimis" losses are inadvertent releases to a wastewater treatment system, including those from normal material handling operations (e.g., spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing. Any manufacturing facility that claims an exemption for de minimis quantities of wastes listed in 261.31 through 261.32, or any nonmanufacturing facility that claims an exemption for de minimis quantities of wastes listed in subpart D of this part must either have eliminated the discharge of wastewaters or have included in its Clean Water Act permit application or submission to its pretreatment control authority the constituents for which each waste was listed (in 261 Appendix VII) of this part; and the constituents in the table ``'Treatment Standards for Hazardous Wastes'" in 268.40 for which each waste has a treatment standard (i.e., Land Disposal Restriction constituents). A facility is eligible to claim the exemption once the permit writer or control authority has been notified of possible de minimis releases via the Clean Water Act permit application or the pretreatment control authority submission. A copy of the Clean Water permit application or the submission to the pretreatment control authority must be placed in the facility's on-site files; or (6/08)

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in subpart D of this part, provided, that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation; or (5/96)

(F) One or more of the following wastes listed in 261.32 - wastewaters from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157) - Provided that the maximum weekly usage of formaldehyde, methyl chloride, methylene chloride, and triethylamine (including all amounts that cannot be demonstrated to be reacted in the process, destroyed through treatment, or is recovered, i.e., what is discharged or volatilized) divided by the average weekly flow of process wastewater prior to any dilution into the headworks of the facility's wastewater treatment system does not exceed a total of 5 parts per million by weight OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 parts per million on an average weekly basis. Facilities that choose to measure concentration levels must file copy of their sampling and analysis plan with the Department or an authorized representative. A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Department. The Department may reject the sampling and analysis plan if the Department finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Department rejects the sampling and analysis plan or if the Department finds that the facility is not following the sampling and analysis plan, the Department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected; or (6/08)

(G) Wastewaters derived-from the treatment of one or more of the following wastes listed in 261.32 - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K156). - *Provided*, that the maximum concentration of formaldehyde, methyl chloride, methylene chloride, and triethylamine prior to any dilutions into the headworks of the facility's wastewater treatment system does not exceed a total of 5 milligrams per liter OR the total measured concentration of these chemicals entering the headworks of the facility's wastewater treatment system (at facilities subject to regulation under the Clean Air Act as amended, at 40 CFR parts 60, 61, or 63, or at facilities subject to an enforceable limit in a federal operating permit that minimizes fugitive emissions), does not exceed 5 milligrams per liter on an average weekly basis. Facilities that choose to measure

concentration levels must file copy of their sampling and analysis plan with the Department or an authorized representative. A facility must file a copy of a revised sampling and analysis plan only if the initial plan is rendered inaccurate by changes in the facility's operations. The sampling and analysis plan must include the monitoring point location (headworks), the sampling frequency and methodology, and a list of constituents to be monitored. A facility is eligible for the direct monitoring option once they receive confirmation that the sampling and analysis plan has been received by the Department. The Department may reject the sampling and analysis plan if the Department finds that, the sampling and analysis plan fails to include the above information; or the plan parameters would not enable the facility to calculate the weekly average concentration of these chemicals accurately. If the Department rejects the sampling and analysis plan or if the Department finds that the facility is not following the sampling and analysis plan, the Department shall notify the facility to cease the use of the direct monitoring option until such time as the bases for rejection are corrected. (6/08)

(v) Rebuttable presumption for used oil. Used oil containing more than 1000 ppm total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in subpart D of part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by using an analytical method from SW-846, Third Edition, to show that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix VIII of part 261 of this chapter). EPA Publication SW-846, Third Edition, is available for the cost of $110.00 from the Government Printing Office, Superintendent of Documents, PO Box 371954, Pittsburgh, PA 15250-7954. 202-783-3238 (document number 955-001-00000-1). (11/99)

(A) The rebuttable presumption does not apply to metalworking oils/fluids containing chlorinated paraffins, if they are processed, through a tolling agreement, to reclaim metalworking oils/fluids. The presumption does apply to metalworking oils/fluids if such oils/fluids are recycled in any other manner, or disposed. (11/99)

(B) The rebuttable presumption does not apply to used oils contaminated with chlorofluorocarbons (CFCs) removed from refrigeration units where the CFCs are destined for reclamation. The rebuttable presumption does apply to used oils contaminated with CFCs that have been mixed with used oil from sources other than refrigeration units. (11/99)

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in subpart D of this part, when the waste first meets the listing description set forth in subpart D of this part.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in subpart D is first added to the solid waste. (8/00)

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in subpart C of this part.

(c) Unless and until it meets the criteria of paragraph (d) of this part:

(1) A hazardous waste will remain a hazardous waste.

(2) (i) Except as otherwise provided in paragraph (c)(2)(ii), (g) or (h), any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.) (6/02, 6/03)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

(A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by section 261.6(a)(3)(iii)and (iv) (12/92; 5/96; 8/00).

(C)(1) Nonwastewater residues, such as slag, resulting from high temperature metals recovery (HTMR) processing of K061, K062, or F006 waste, in units identified as rotary kilns, flame reactors, electric furnaces, plasma arc furnaces, slag reactors, rotary hearth furnace/electric furnace combinations or industrial furnaces (as defined in paragraphs (6), (7), and (13) of the definition for Industrial furnace" in 260.10), that are disposed in subtitle D units, provided that these residues meet the generic exclusion levels identified in the tables in this paragraph for all constituents, and exhibit no characteristics of hazardous waste. Testing requirements must be incorporated in a facility's waste analysis plan or a generator's self-implementing waste analysis plan; at a minimum, composite samples of residues must be collected and analyzed quarterly and/or when the process or operation generating the waste changes. Persons claiming this exclusion in an enforcement action will have the burden

of proving by clear and convincing evidence that the material meets all of the exclusion requirements. (12/92; 12/93)

Constituent	Maximum for any single composite sample (mg/l)
Generic exclusion levels for **K061 and K062** nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70.
Generic exclusion levels for **F006** nonwastewater HTMR residues	
Antimony	0.10
Arsenic	0.50
Barium	7.6
Beryllium	0.010
Cadmium	0.050
Chromium (total)	0.33
Cyanide (total) (mg/kg)	1.8
Lead	0.15
Mercury	0.009
Nickel	1.0
Selenium	0.16
Silver	0.30
Thallium	0.020
Zinc	70.0

(2) A one-time notification and certification must be placed in the facility's files and sent to the Department for K061, K062, or F006 HTMR residues that meet the generic exclusion levels for all constituents and do not exhibit any characteristics that are sent to subtitle D units. The notification and certification that is placed in the generators or treaters files must be updated if the process or operation generating the waste changes and/or if the subtitle D unit receiving the waste changes. However, the generator or treater need only notify the Department on an annual basis if such changes occur. Such notification and certification should be sent to the Department by the end of the calendar year, but no later than December 31. The notification must include the following information: The name and address of the subtitle D unit receiving the waste shipments; the EPA Hazardous Waste Number(s) and treatability group(s) at the initial point of generation; and, the treatment standards applicable to the waste at the initial point of generation. The certification must be signed by an authorized representative and must state as follows: "I certify under penalty of law that the generic exclusion levels for all constituents have been met without impermissible dilution and that no characteristic of hazardous waste is exhibited. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." (12/93; 5/96)

(D) Biological treatment sludge from the treatment of one of the following wastes listed in 261.32 - organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes (EPA Hazardous Waste No. K157).(10/01)

(E) Catalyst inert support media separated from one of the following wastes listed in 261.32 Spent hydrotreating catalyst (EPA Hazardous Waste No. K171), and Spent hydrorefining catalyst (EPA Hazardous Waste No. K172). (8/00)

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in subpart C of this part. (However, wastes that exhibit a characteristic at the point of generation may still be subject to the requirements of part 268, even if they no longer exhibit a characteristic at the point of land disposal) (12/92).

(2) In the case of a waste which is a listed waste under subpart D of this part, contains a waste listed under subpart D of this part or is derived from a waste listed in subpart D of this part, it also has been excluded from paragraph (c) under 260.20 and 260.22.

(e) For the purposes of this regulation the wastes listed in Appendix XI will be considered hazardous.

(f) Notwithstanding paragraphs (a) through (d) of this section and provided the debris as defined in part 268 does not exhibit a characteristic identified at subpart C of this part, the following materials are not subject to regulation under 260, 261 to 266, 268, or 270: (12/93)

(1) Hazardous debris as defined in part 268 that has been treated using one of the required extraction or destruction technologies specified in Table 1 of 268.45; persons claiming this exclusion in an enforcement action will have the burden of proving by clear and convincing evidence that the material meets all of the exclusion requirements; or (12/93)

(2) Debris as defined in part 268 that the Department, considering the extent of contamination, has determined is no longer contaminated with hazardous waste. (12/93)

(g)(1) A hazardous waste that is listed in subpart D of this part solely because it exhibits one or more characteristics of ignitability as defined under 261.21, corrosivity as defined under 261.22, or reactivity as defined under 261.23 is not a hazardous waste, if the

waste no longer exhibits any characteristic of hazardous waste identified in subpart C of this part. (6/02)

(2) The exclusion described in paragraph (g)(1) of this section also pertains to:

(i) Any mixture of a solid waste and a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) of this section; and

(ii) Any solid waste generated from treating, storing, or disposing of a hazardous waste listed in subpart D of this part solely because it exhibits the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (c)(2)(i) of this section.

(3) Wastes excluded under this section are subject to part 268 of this chapter (as applicable), even if they no longer exhibit a characteristic at the point of land disposal.

(4) Any mixture of a solid waste excluded from regulation under 261.4(b)(7) and a hazardous waste listed in Subpart D solely because it exhibits one or more of the characteristics of ignitability, corrosivity, or reactivity as regulated under paragraph (a)(2)(iv) is not a hazardous waste, if the mixture no longer exhibits any characteristic of hazardous waste identified in Subpart C for which the hazardous waste listed in Subpart D was listed. (6/03)

(h)(1) Hazardous waste containing radioactive waste is no longer a hazardous waste when it meets the eligibility criteria and conditions of 266, Subpart N ("eligible radioactive mixed waste"). (6/02)

(2) The exemption described in paragraph (h)(1) of this section also pertains to:

(i) Any mixture of a solid waste and an eligible radioactive mixed waste; and

(ii) Any solid waste generated from treating, storing, or disposing of an eligible radioactive mixed waste.

(3) Waste exempted under this section must meet the eligibility criteria and specified conditions in 266.225 and 266.230 (for storage and treatment). Waste that fails to satisfy these eligibility criteria and conditions is regulated as hazardous waste.

261.4 Exclusions

(a) Materials which are not solid wastes. The following materials are not solid wastes for the purpose of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under Section 48-1-10 et seq., of the S. C. Code of Laws of 1976, and section 402 of the Clean Water Act, as amended. (12/93)

[Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment] (12/92).

(3) Irrigation return flows.

(4) Source, special nuclear or by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.

(5) Materials subjected to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(6) Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in Section 261.1(c).

(7) Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in Section 261.1(c).

(8) Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(i) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(ii) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(iii) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(iv) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

(9) (12/92)

(i) Spent wood preserving solutions that have been reclaimed and are reused for their original intended purpose; and

(ii) Wastewaters from the wood preserving process that have been reclaimed and are reused to treat wood.

(iii) Prior to reuse, the wood preserving wastewaters and spent wood preserving solutions described in paragraphs (a)(9)(i) and (a)(9)(ii) of this section, so long as they meet all of the following conditions: (11/99)

(A) The wood preserving wastewaters and spent wood preserving solutions are reused on-site at water borne plants in the production process for their original intended purpose; (11/99)

(B) Prior to reuse, the wastewaters and spent wood preserving solutions are managed to prevent release to either land or groundwater or both; (11/99)

(C) Any unit used to manage wastewaters and/or spent wood preserving solutions prior to reuse can be visually or otherwise determined to prevent such releases; (11/99)

(D) Any drip pad used to manage the wastewaters and/or spent wood preserving solutions prior to reuse complies with the standards in part 265, subpart W of this chapter, regardless of whether the plant generates a total of less than 100 kg/month of hazardous waste; and (11/99)

(E) Prior to operating pursuant to this exclusion, the plant owner or operator prepares a one-time notification stating that the plant intends to claim the exclusion, giving the date on which the plant intends to begin operating under the exclusion, and containing the following language: ‘‘I have read the applicable regulation establishing an exclusion for wood preserving wastewaters and spent wood preserving solutions and understand it requires me to comply at all times with the conditions set out in the regulation."

The plant must maintain a copy of that document in its on-site records until closure of the facility. The exclusion applies so long as the plant meets all of the conditions. If the plant goes out of compliance with any condition, it may apply to the appropriate Department for reinstatement. The Department may reinstate the exclusion upon finding that the plant has returned to compliance with all conditions and that the violations are not likely to recur. (6/08)

(10) EPA Hazardous Waste Nos. K060, K087, K141, K142, K143, K144, K145, K147, and K148, and any wastes from the coke byproducts processes that are hazardous only because they exhibit the Toxicity Characteristic (TC) specified in section 261.24 of this part when, subsequent to generation, these materials are recycled to coke ovens, to the tar recovery process as a feedstock to produce coal tar, or are mixed with coal tar prior to the tar's sale or refining. This exclusion is conditioned on there being no land disposal of the wastes from the point they are generated to the point they are recycled to coke ovens or the tar recovery or refining processes, or mixed with coal tar. (12/93, 6/04)

(11) Nonwastewater splash condenser dross residue from the treatment of K061 in high temperature metals recovery units, provided it is shipped in drums (if shipped) and not land disposed before recovery. (12/93)

(12)(i) Oil-bearing hazardous secondary materials (i.e., sludges, byproducts, or spent materials) that are generated at a petroleum refinery (SIC code 2911) and are inserted into the petroleum refining process (SIC code 2911 - including, but not limited to, distillation, catalytic cracking, fractionation, gasification (as defined in 40 CFR 260.10) (4/10) or thermal cracking units (i.e., cokers)) unless the material is placed on the land, or speculatively accumulated before being so recycled. Materials inserted into thermal cracking units are excluded under this paragraph, provided that the coke product also does not exhibit a characteristic of hazardous waste. Oil-bearing hazardous secondary materials may be inserted into the same petroleum refinery where they are generated, or sent directly to another petroleum refinery, and still be excluded under this provision. Except as provided in paragraph (a)(12)(ii) of this section, oil-bearing hazardous secondary materials generated elsewhere in the petroleum industry (i.e., from sources other than petroleum refineries) are not excluded under this section. Residuals generated from processing or recycling materials excluded under this paragraph (a)(12)(i), where such materials as generated would have otherwise met a listing under subpart D of this part, are designated as F037 listed wastes when disposed of or intended for disposal. (5/96, 9/98; 8/00; 4/10)

(ii) Recovered oil that is recycled in the same manner and with the same conditions as described in paragraph (a)(12)(i) of this section. Recovered oil is oil that has been reclaimed from secondary materials (including wastewater) generated from normal petroleum industry practices, including refining, exploration and production, bulk storage, and transportation incident thereto (SIC codes 1311, 1321, 1381, 1382, 1389, 2911, 4612, 4613, 4922, 4923, 4789, 5171, and 5172.) Recovered oil does not include oil-bearing hazardous wastes listed in subpart D of this part; however, oil recovered from such wastes may be considered recovered oil. Recovered oil does not include used oil as defined in 40 CFR 279.1. (8/00)

(13) Excluded scrap metal (processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal) being recycled. (9/98)

(14) Shredded circuit boards being recycled provided that they are: (9/98)

(i) Stored in containers sufficient to prevent a release to the environment prior to recovery; and

(ii) Free of mercury switches, mercury relays and nickel cadmium batteries and lithium batteries.

(15) Condensates derived from the overhead gases from kraft mill steam strippers that are used to comply with 40 CFR 63.446(e). The exemption applies only to combustion at the mill generating the condensates. (11/99)

(16) Comparable fuels or comparable syngas fuels that meet the requirements of 261.38. (11/99, 8/00)

(17) Spent materials (as defined in 261.1) (other than hazardous wastes listed in subpart D of this part) generated within the primary mineral processing industry from which minerals, acids, cyanide, water, or

other values are recovered by mineral processing, or by beneficiation, provided that: (11/99; 8/00, 6/03)

(i) The spent material is legitimately recycled to recover minerals, acids, cyanide, water or other values; (6/03)

(ii) The spent material is not accumulated speculatively; (6/03)

(iii) Except as provided in paragraph (a)(17)(iv) of this section, the spent material is stored in tanks, containers, or buildings meeting the following minimum integrity standards: a building must be an engineered structure with a floor, walls, and a roof all of which are made of non-earthen materials providing structural support (except smelter buildings may have partially earthen floors provided the secondary material is stored on the non-earthen portion), and have a roof suitable for diverting rainwater away from the foundation; a tank must be free standing, not be a surface impoundment (as defined in 260.10), and be manufactured of a material suitable for containment of its contents; a container must be free standing and be manufactured of a material suitable for containment of its contents. If tanks or containers contain any particulate which may be subject to wind dispersal, the owner/operator must operate these units in a manner which controls fugitive dust. Tanks, containers, and buildings must be designed, constructed and operated to prevent significant releases to the environment of these materials. (8/00, 6/03)

(iv) The Department may make a site-specific determination, after public review and comment, that only solid mineral processing spent material may be placed on pads rather than tanks, containers, or buildings. Solid mineral processing spent materials do not contain any free liquid. The decision-maker must affirm that pads are designed, constructed and operated to prevent significant releases of the secondary material into the environment. Pads must provide the same degree of containment afforded by the non-RCRA tanks, containers and buildings eligible for exclusion. (6/03)

(A) The decision-maker must also consider if storage on pads poses the potential for significant releases via groundwater, surface water, and air exposure pathways. Factors to be considered for assessing the groundwater, surface water, air exposure pathways are: the volume and physical and chemical properties of the secondary material, including its potential for migration off the pad; the potential for human or environmental exposure to hazardous constituents migrating from the pad via each exposure pathway, and the possibility and extent of harm to human and environmental receptors via each exposure pathway.

(B) Pads must meet the following minimum standards: be designed of non-earthen material that is compatible with the chemical nature of the mineral processing spent material, capable of withstanding physical stresses associated with placement and removal, have run on/runoff controls, be operated in a manner which controls fugitive dust, and have integrity assurance through inspections and maintenance programs. (6/03)

(C) Before making a determination under this paragraph, the Department must provide notice and the opportunity for comment to all persons potentially interested in the determination. This can be accomplished by placing notice of this action in major local newspapers, or broadcasting notice over local radio stations.

(v) The owner or operator provides notice to the Department, providing the following information: the types of materials to be recycled; the type and location of the storage units and recycling processes; and the annual quantities expected to be placed in land-based units. This notification must be updated when there is a change in the type of materials recycled or the location of the recycling process. (8/00, 6/03)

(vi) For purposes of 261.4(b)(7) mineral processing spent materials must be the result of mineral processing and may not include any listed hazardous wastes. Listed hazardous wastes and characteristic hazardous wastes generated by non-mineral processing industries are not eligible for the conditional exclusion from the definition of solid waste. (6/03)

(18) Petrochemical recovered oil from an associated organic chemical manufacturing facility, where the oil is to be inserted into the petroleum refining process (SIC code 2911) along with normal petroleum refinery process streams, provided: (8/00)

(i) The oil is hazardous only because it exhibits the characteristic of ignitability (as defined in 261.21) and/or toxicity for benzene (261.24, waste code D018); and

(ii) The oil generated by the organic chemical manufacturing facility is not placed on the land, or speculatively accumulated before being recycled into the petroleum refining process. An "associated organic chemical manufacturing facility" is a facility where the primary SIC code is 2869, but where operations may also include SIC codes 2821, 2822, and 2865; and is physically co-located with a petroleum refinery; and where the petroleum refinery to which the oil being recycled is returned also provides hydrocarbon feedstocks to the organic chemical manufacturing facility. "Petrochemical recovered oil" is oil that has been reclaimed from secondary materials (i.e., sludges, byproducts, or spent materials, including wastewater) from normal organic chemical manufacturing operations, as well as oil recovered from organic chemical manufacturing processes.

(19) Spent caustic solutions from petroleum refining liquid treating processes used as a feedstock to produce cresylic or naphthenic acid unless the material

is placed on the land, or accumulated speculatively as defined in 261.1(c). (8/00)

(20) Hazardous secondary materials used to make zinc fertilizers, provided that the following conditions specified are satisfied: (6/04)

(i) Hazardous secondary materials used to make zinc micronutrient fertilizers must not be accumulated speculatively, as defined in 261.1(c)(8).

(ii) Generators and intermediate handlers of zinc-bearing hazardous secondary materials that are to be incorporated into zinc fertilizers must:

(A) Submit a one-time notice to the Department which contains the name, address and EPA ID number of the generator or intermediate handler facility, provides a brief description of the secondary material that will be subject to the exclusion, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph (a)(20).

(B) Store the excluded secondary material in tanks, containers, or buildings that are constructed and maintained in a way that prevents releases of the secondary materials into the environment. At a minimum, any building used for this purpose must be an engineered structure made of non-earthen materials that provide structural support, and must have a floor, walls and a roof that prevent wind dispersal and contact with rainwater. Tanks used for this purpose must be structurally sound and, if outdoors, must have roofs or covers that prevent contact with wind and rain. Containers used for this purpose must be kept closed except when it is necessary to add or remove material, and must be in sound condition. Containers that are stored outdoors must be managed within storage areas that:

(1) have containment structures or systems sufficiently impervious to contain leaks, spills and accumulated precipitation; and

(2) provide for effective drainage and removal of leaks, spills and accumulated precipitation; and

(3) prevent run-on into the containment system.

(C) With each off-site shipment of excluded hazardous secondary materials, provide written notice to the receiving facility that the material is subject to the conditions of this paragraph (a)(20).

(D) Maintain at the generator's or intermediate handler's facility for no less than three years records of all shipments of excluded hazardous secondary materials. For each shipment these records must at a minimum contain the following information:

(1) Name of the transporter and date of the shipment;

(2) Name and address of the facility that received the excluded material, and documentation confirming receipt of the shipment; and

(3) Type and quantity of excluded secondary material in each shipment.

(iii) Manufacturers of zinc fertilizers or zinc fertilizer ingredients made from excluded hazardous secondary materials must:

(A) Store excluded hazardous secondary materials in accordance with the storage requirements for generators and intermediate handlers, as specified in paragraph (a)(20)(ii)(B) of this section.

(B) Submit a one-time notification to the Department that, at a minimum, specifies the name, address and EPA ID number of the manufacturing facility, and identifies when the manufacturer intends to begin managing excluded, zinc-bearing hazardous secondary materials under the conditions specified in this paragraph (a)(20).

(C) Maintain for a minimum of three years records of all shipments of excluded hazardous secondary materials received by the manufacturer, which must at a minimum identify for each shipment the name and address of the generating facility, name of transporter and date the materials were received, the quantity received, and a brief description of the industrial process that generated the material.

(D) Submit to the Department an annual report that identifies the total quantities of all excluded hazardous secondary materials that were used to manufacture zinc fertilizers or zinc fertilizer ingredients in the previous year, the name and address of each generating facility, and the industrial process(s) from which they were generated.

(iv) Nothing in this section preempts, overrides or otherwise negates the provision in 262.11 of this chapter, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(v) Interim status and permitted storage units that have been used to store only zinc-bearing hazardous wastes prior to the submission of the one-time notice described in paragraph (a)(20)(ii)(A), and that afterward will be used only to store hazardous secondary materials excluded under this paragraph, are not subject to the closure requirements of 264 and 265.

(21) Zinc fertilizers made from hazardous wastes, or hazardous secondary materials that are excluded under paragraph (a)(20) of this section, provided that: (6/04)

(i) The fertilizers meet the following contaminant limits:

(A) For metal contaminants:

Constituent (6/04)	Maximum Allowable Total Concentration in Fertilizer, per Unit (1%) of Zinc (ppm)
Arsenic	0.3
Cadmium	1.4
Chromium	0.6
Lead	2.8
Mercury	0.3

(B) For dioxin contaminants the fertilizer must contain no more than eight (8) parts per trillion of dioxin, measured as toxic equivalent (TEQ).

(ii) The manufacturer performs sampling and analysis of the fertilizer product to determine compliance with the contaminant limits for metals no less than every six months, and for dioxins no less than every twelve months. Testing must also be performed whenever changes occur to manufacturing processes or ingredients that could significantly affect the amounts of contaminants in the fertilizer product. The manufacturer may use any reliable analytical method to demonstrate that no constituent of concern is present in the product at concentrations above the applicable limits. It is the responsibility of the manufacturer to ensure that the sampling and analysis are unbiased, precise, and representative of the product(s) introduced into commerce.

(iii) The manufacturer maintains for no less than three years records of all sampling and analyses performed for purposes of determining compliance with the requirements of paragraph (a)(21)(ii) of this section. Such records must at a minimum include:

(A) The dates and times product samples were taken, and the dates the samples were analyzed;

(B) The names and qualifications of the person(s) taking the samples;

(C) A description of the methods and equipment used to take the samples;

(D) The name and address of the laboratory facility at which analyses of the samples were performed;

(E) A description of the analytical methods used, including any cleanup and sample preparation methods; and

(F) All laboratory analytical results used to determine compliance with the contaminant limits specified in this paragraph (a)(21).

(22) Used Cathode Ray Tubes (CRTs)

(i) Used, intact CRTs as defined in Sec. 260.10 of this chapter are not solid wastes within the United States unless they are disposed, or unless they are speculatively accumulated as defined in 261.1(c)(8) by CRT collectors or glass processors.

(ii) Used, intact CRTs as defined in Sec. 260.10 of this chapter are not solid wastes when exported for recycling provided that they meet the requirements of Sec. 261.40.

(iii) Used, broken CRTs as defined in Sec. 260.10 of this chapter are not solid wastes provided that they meet the requirements of 261.39.

(iv) Glass removed from CRTs is not a solid waste provided that it meets the requirements of 261.39(c).

(23) [Reserved and Withdrawn 6/04]

(24) [Withdrawn 6/04]

(b) Solid wastes which are not hazardous wastes. The following solid wastes are not hazardous wastes:

(1) Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered (e.g., refuse-derived fuel) or reused. "Household waste" means any material (including garbage, trash and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds and day use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purpose of regulation under this subtitle, if such facility (12/92; 12/93, 6/03):

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site if such overburden is handled in compliance with all applicable provisions of the S. C. Mining Act, Section 48-20-10 et seq., S. C. Code of Laws, 1976, as amended.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels, except as provided by 266.112 for facilities that burn or process hazardous waste (12/92).

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or

production of crude oil, natural gas or geothermal energy.

(6) (i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in subpart D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that: (11/90)

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i) (A), (B), and (C) (so long as they do not fail the test for the toxicity characteristic for any other constituent, and do not exhibit any other characteristic) are: (11/90; 12/93)

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling. (11/90; 12/92)

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling. (12/92)

(F) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO^2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal, phosphate rock, and overburden from the mining of uranium ore), except as provided by 266.112 for facilities that burn or process hazardous waste.

(i) For purposes of 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching.

(ii) For the purposes of 261.4(b)(7), solid waste from the processing of ores and minerals includes only the following wastes as generated: (12/92, 11/99)

(A) Slag from primary copper processing;

(B) Slag from primary lead processing;

(C) Red and brown muds from bauxite refining;

(D) Phosphogypsum from phosphoric acid production;

(E) Slag from elemental phosphorus production;

(F) Gasifier ash from coal gasification;

(G) Process wastewater from coal gasification;

(H) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(I) Slag tailings from primary copper processing;

(J) Fluorogypsum from hydrofluoric acid production;

(K) Process wastewater from hydrofluoric acid production;

(L) Air pollution control dust/sludge from iron blast furnaces;

(M) Iron blast furnace slag;

(N) Treated residue from roasting/leaching of chrome ore;

(O) Process wastewater from primary magnesium processing by the anhydrous process;

(P) Process wastewater from phosphoric acid production;

(Q) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

(R) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(S) Chloride process waste solids from titanium tetrachloride production;

(T) Slag from primary zinc processing.

(iii) A residue derived from co-processing mineral processing secondary materials with normal beneficiation raw materials or with normal mineral processing raw materials remains excluded under paragraph (b) of this section if the owner or operator: (11/99; 8/00)

(A) Processes at least 50 percent by weight normal beneficiation raw materials or normal mineral processing raw materials; and,

(B) Legitimately reclaims the secondary mineral processing materials.

(8) Cement kiln dust waste, except as provided by 266.112 for facilities that burn or process hazardous waste (12/92).

(9) Solid waste which consists of discarded arsenical-treated wood or wood products which fails the test for the Toxicity Characteristic for Hazardous Waste Codes D004 through D017 and which is not a hazardous waste for any other reason, if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use. (11/90; 12/92; 12/93)

(10) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of section 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under 40 CFR 280. (11/90)

(11) [Reserved]

(12) Used chlorofluorocarbon refrigerants from totally enclosed heat transfer equipment, including mobile air conditioning systems, mobile refrigeration, and commercial and industrial air conditioning and refrigeration systems that use chlorofluorocarbons as the heat transfer fluid in a refrigeration cycle, provided the refrigerant is reclaimed for further use (12/92).

(13) Non-terne plated used oil filters that are not mixed with wastes listed in Subpart D of this part if these oil filters have been gravity hot-drained using one of the following methods: (12/93)

(i) Puncturing the filter anti-drain back valve or the filter dome end and hot-draining;

(ii) Hot-draining and crushing;

(iii) Dismantling and hot-draining; or

(iv) Any other equivalent hot-draining method that will remove used oil.

(14) Used oil re-refining distillation bottoms that are used as feedstock to manufacture asphalt products. (12/93)

(15) Leachate or gas condensate collected from landfills where certain solid wastes have been disposed, provided that: (8/00, 6/03)

(i) The solid wastes disposed would meet one or more of the listing descriptions for Hazardous Waste Codes K169, K170, K171, K172, K174, K175, K176, K177, K178, and K181, if these wastes had been generated after the effective date of the listing; (6/03, 2/07)

(ii) The solid wastes described in paragraph (b)(15)(i) of this section were disposed prior to the effective date of the listing;

(iii) The leachate or gas condensate do not exhibit any characteristic of hazardous waste nor are derived from any other listed hazardous waste;

(iv) Discharge of the leachate or gas condensate, including leachate or gas condensate transferred from the landfill to a POTW by truck, rail, or dedicated pipe, is subject to regulation under sections 307(b) or 402 of the Clean Water Act.

(v) As of February 13, 2001, leachate or gas condensate derived from K169-K172 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. As of November 21, 2003, leachate or gas condensate derived from K176, K177, and K178 is no longer exempt if it is stored or managed in a surface impoundment prior to discharge. After February 26, 2007, leachate or gas condensate derived from K181 will no longer be exempt if it is stored or managed in a surface impoundment prior to discharge. There is one exception: if the surface impoundment is used to temporarily store leachate or gas condensate in response to an emergency situation (e.g., shutdown of wastewater treatment system), provided the impoundment has a double liner, and provided the leachate or gas condensate is removed from the impoundment and continues to be managed in compliance with the conditions of this paragraph after the emergency ends. (6/03, 2/07)

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under 262 through 266, 268, 270, and 124 or to the notification requirements of South Carolina Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials. (11/90; 12/92)

(d) Samples.

(1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this part or 262 through 266, 268, 270, or 124 or to the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 when: (11/90; 12/92)

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) The sample is being stored in a laboratory before testing; or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(1) The sample collector's name, mailing address, and telephone number;

(2) The laboratory's name, mailing address, and telephone number;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(e) Treatability Study Samples. (11/90; 12/94)

(1) Except as provided in paragraph (e)(2) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10, are not subject to any requirement of parts 261 through 263 or to the notification requirements of SC 44-56-120 and Section 3010 of RCRA, nor are such samples included in the quantity determinations of 261.5 and 262.34(d) when (12/92):

(i) The sample is being collected and prepared for transportation by the generator or sample collector; or

(ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(i) The generator or sample collector uses (in "treatability studies") no more than 10,000 kg of media contaminated with non-acute hazardous waste, 1000 kg of non-acute hazardous waste other than contaminated media, 1 kg of acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

(ii) The mass of each sample shipment does not exceed 10,000 kg; the 10,000 kg quantity may be all media contaminated with non-acute hazardous waste, or may include 2500 kg of media contaminated with acute hazardous waste, 1000 kg of hazardous waste, and 1 kg of acute hazardous waste; and

(iii) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of paragraph A or B of this subparagraph are met.

(A) The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), South Carolina Public Service Commission or any other applicable shipping requirements; or

(B) If the DOT, USPS, South Carolina Public Service Commission or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(1) The name, mailing address, and telephone number of the originator of the sample;

(2) The name, address, and telephone number of the facility that will perform the treatability study;

(3) The quantity of the sample;

(4) The date of shipment; and

(5) A description of the sample, including its EPA Hazardous Waste Number.

(iv) The sample is shipped to a laboratory or testing facility which is exempt under 261.4(f) or has an appropriate RCRA permit or interim status.

(v) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

(A) Copies of the shipping documents;

(B) A copy of the contract with the facility conducting the treatability study;

(C) Documentation showing:

(1) The amount of waste shipped under this exemption;

(2) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(3) The date the shipment was made; and

(4) Whether or not unused samples and residues were returned to the generator.

(vi) The generator reports the information required under paragraph (e)(2)(v)(C) of this section in its annual report (12/92, 9/98).

(3) The Department may grant requests on a case-by-case basis for up to an additional two years for treatability studies involving bioremediation. The Department may grant requests on a case-by-case basis for quantity limits in excess of those specified in paragraphs (e)(2)(i) and (ii) and (f)(4) of this section, for up to an additional 5000 kg of media contaminated with non-acute hazardous waste, 500 kg of non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste and 1 kg of acute hazardous waste;

(i) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities in advance of commencing treatability studies. Factors to be considered in reviewing such requests include the nature of the technology, the type of process (e.g., batch versus continuous), size of the unit undergoing testing (particularly in relation to scale-up considerations), the time/quantity of material required to reach steady state operating conditions, or test design considerations such as mass balance calculations.

(ii) In response to requests for authorization to ship, store and conduct treatability studies on additional quantities after initiation or completion of initial treatability studies, when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment.

(iii) The additional quantities and timeframes allowed in paragraph (e)(3) (i) and (ii) of this section are subject to all the provisions in paragraphs (e)(1) and (e)(2)(iii) through (vi) of this section. The generator or sample collector must apply to the Department and provide in writing the following information:

(A) The reason why the generator or sample collector requires additional time or quantity of sample for treatability study evaluation and the additional time or quantity needed,

(B) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the date each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results on each treatability study;

(C) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(D) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(E) Such other information that the Department considers necessary.

(f) Samples Undergoing Treatability Studies at Laboratories and Testing Facilities. Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this part, part 124, parts 262 through 266, 268, and 270, or to the notification requirements of SCHWMA 44-56-120 and Section 3010 of RCRA provided that the conditions of paragraphs (f) (1) through (11) of this section are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (f) (1) through (11) of this section. Where a group of MTUs are located at the same site, the limitations specified in (f) (1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU. (11/90; 12/92; 12/94)

(1) No less than 45 days before conducting treatability studies, the facility notifies the Department in writing that it intends to conduct treatability studies under this paragraph.

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(3) No more than a total of 10,000 kg of "as received" media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste or 250 kg of other "as received" hazardous waste is subject to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

(4) The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 10,000 kg, the total of which can include 10,000 kg of media contaminated with non-acute hazardous waste, 2500 kg of media contaminated with acute hazardous waste, 1000 kg of non-acute hazardous wastes other than contaminated media, and 1 kg of acute hazardous waste. This quantity limitation does not include treatment materials (including nonhazardous solid waste) added to "as received" hazardous waste.

(5) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year (two years for treatability studies involving bioremediation) have elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs. Up to 500 kg of treated material from a particular waste stream from treatability studies may be archived for future evaluation up to five years from the date of initial receipt. Quantities of materials archived are counted against the total storage limit for the facility.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(i) The name, address, and EPA identification number of the generator or sample collector of each waste sample;

(ii) The date the shipment was received;

(iii) The quantity of waste accepted;

(iv) The quantity of "as received" waste in storage each day;

(v) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day;

(vi) The date the treatability study was concluded;

(vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, onsite, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Department by March 15 of each year, that includes the following information for the previous calendar year: (6/08)

(i) The name, address, and EPA identification number of the facility conducting the treatability studies;

(ii) The types (by process) of treatability studies conducted;

(iii) The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers);

(iv) The total quantity of waste in storage each day;

(v) The quantity and types of waste subjected to treatability studies;

(vi) When each treatability study was conducted;

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under 261.3 and, if so, are subject to parts 261 through 268, and part 270, unless the residues and unused samples are returned to the sample originator under the 261.4(e) exemption.

(11) The facility notifies the Department by letter when the facility is no longer planning to conduct any treatability studies at the site. (11/90)

(g) Dredged material that is not a hazardous waste. Dredged material that is subject to the requirements of a permit that has been issued under 404 of the Federal Water Pollution Control Act (33 U.S.C.1344) or section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413) is not a hazardous waste. For this paragraph (g), the following definitions apply: (8/00)

(1) The term dredged material has the same meaning as defined in 40 CFR 232.2;

(2) The term permit means:

(i) A permit issued by the U.S. Army Corps of Engineers (Corps) or an approved State under section 404 of the Federal Water Pollution Control Act (33 U.S.C. 1344);

(ii) A permit issued by the Corps under section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1413); or

(iii) In the case of Corps civil works projects, the administrative equivalent of the permits referred to in paragraphs (g)(2)(i) and (ii) of this section, as provided for in Corps regulations (for example, see 33 CFR 336.1, 336.2, and 337.6).

261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators

(a) A generator is a conditionally exempt small quantity generator in a calendar month if he generates

no more than 100 kilograms of hazardous waste in that month. (6/89, 12/92)

(b) Except for those wastes identified in paragraphs (e), (f), (g), and (j) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under 262 through 266, 268, 270 and 124, and the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-60 and provided the generator complies with the requirements of paragraphs (f), (g), and (j) of this section (6/89, 11/90).

(c) When making the quantity determinations of this part and 262, the generator must include all hazardous waste that it generates, except hazardous waste that: (5/96)

(1) Is exempt from regulation under 261.4(c) through (f), 261.6(a)(3), 261.7(a)(1), or 261.8; or (5/96)

(2) Is managed immediately upon generation only in on-site elementary neutralization units, wastewater treatment units, or totally enclosed treatment facilities as defined in 260.10; or (5/96)

(3) Is recycled, without prior storage or accumulation, only in an on-site process subject to regulation under 261.6(c)(2); or (5/96)

(4) Is used oil managed under the requirements of 261.6(a)(4) or (5/96)

(5) Is spent lead-acid batteries managed under the requirements of 266 subpart G; or (5/96)

(6) Is universal waste managed under 261.9 and 273; or (5/96)

(7) Is a hazardous waste that is an unused commercial chemical product (listed in part 261, subpart D or exhibiting one or more characteristics in part 261, subpart C) that is generated solely as a result of a laboratory clean-out conducted at an eligible academic entity pursuant to 262.213. For purposes of this provision, the term eligible academic entity shall have the meaning as defined in 262.200 of Part 262.

(d) In determining the quantity of hazardous waste generated, a generator need not include:

(1) Hazardous waste when it is removed from onsite storage; or

(2) Hazardous waste produced by onsite treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or (6/89)

(3) Spent materials that are generated, reclaimed, and subsequently reused onsite, so long as such spent materials have been counted once. (6/89)

(e) If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acute hazardous waste are subject to full regulation under 262 through 266, 268, R.61-79.270 and 124 and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 and section 3010 of RCRA: (11/90; 12/92)

(1) A total of one kilogram of acute hazardous wastes listed in sections 261.31 or 261.33(e). (10/12)

(2) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in sections 261.31or 261.33(e). (10/12)

[Comment: "Full regulation" means those regulations applicable to generators of 1,000 kg or greater of hazardous waste in a calendar month.] (12/93)

(f) In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (e)(2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements: (11/90, 12/92)

(1) Section 262.11;

(2) The generator may accumulate acute hazardous waste onsite. If he accumulates at any time acute hazardous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes are subject to regulation under 262 through 266, 268, 270 and 124 and the applicable notification requirements of section 3010 RCRA and the applicable notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120. The time period of 262.34(a) for accumulation of wastes onsite, begins when the accumulated wastes exceed the applicable exclusion limit; (11/90, 12/92)

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an onsite facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is: (6/89)

(i) Permitted under 270;

(ii) In interim status under 270 and 265;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR 271; (12/92)

(iv) Permitted, licensed, or registered by the Department to manage municipal solid waste and, if managed in a municipal solid waste landfill is subject to R.61-107.258; (12/92, 5/96, 9/98)

(v) Permitted, licensed, or registered by a State to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in R.61-107.257.5 through 257.30; or (9/98)

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or (5/96)

(vii) For universal waste managed under part 273, a universal waste handler or destination facility subject to the requirements of 273. (5/96)

(g) In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of 100 kilograms or less of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements: (6/89)

(1) Section 262.11;

(2) The conditionally exempt small quantity generator may accumulate hazardous waste onsite. If he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of those accumulated wastes are subject to regulation under the special provisions of 262 applicable to generators of greater than100 kg and less than 1000 kg of hazardous waste in a calendar month as well as the requirements of 263 through 266, 268, and 270 and 124 and the applicable notification requirements of section 3010 of RCRA and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120. The time period of 262.34(d) for accumulation of wastes onsite begins for a conditionally exempt small quantity generator when the accumulated wastes exceed 1000 kilograms; (11/90, 12/92)

(3) A conditionally exempt small quantity generator may either treat or dispose of his hazardous waste in an onsite facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under 270;

(ii) In interim status under 270 and 265;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under 40 CFR 271 (12/92);

(iv) Permitted, licensed, or registered by the Department to manage municipal solid waste, and, if managed in a municipal solid waste landfill is subject to R.61-107.258; (6/89, 12/92; 5/96, 9/98)

(v) Permitted, licensed, or registered by the Department to manage non-municipal non-hazardous waste and, if managed in a non-municipal non-hazardous waste disposal unit after January 1, 1998, is subject to the requirements in R.61-107.257.5 through 257.30; or (9/98)

(vi) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation; or (5/96)

(vii) For universal waste managed under part 273, a universal waste handler or destination facility subject to the requirements of 273. (5/96)

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with nonhazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in subpart C.

(i) If any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation. (11/90)

(j) If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to R.61-79.107.279. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated. (6/89, 6/06)

(k) [Reserved; moved to 262 12/92]

261.6 Requirements for recyclable materials

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under subparts C through N of 266 and all applicable provisions in 270 and 124 (12/92, 10/12):

(i) Recyclable materials used in a manner constituting disposal (Part 266, Subpart C);

(ii) Hazardous wastes burned (as defined in section 266.100(a)) in boilers and industrial furnaces that are not regulated under subpart O of 264 or 265 (Part 266, Subpart H); (11/90, 12/92)

(iii) [Reserved 6/06]

(iv) Recyclable materials from which precious metals are reclaimed (Part 266, Subpart F);

(v) Spent lead-acid batteries that are being reclaimed (Part 266, Subpart G).

(3) The following recyclable materials are not subject to regulation under 262 through 266, or 268, 270 or 124 and are not subject to the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 and 3010 RCRA(11/90, 12/92, 6/03, 6/04):

(i) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in 262.58:

(A) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in sections 262.53, 262.56 (a)(1) - (4), (6), and (b), and 262.57, export such materials only upon consent of the receiving country and in conformance with the EPA

Acknowledgement of Consent as defined in subpart E of 262 and provide a copy of the EPA Acknowledgement of Consent to the shipment to the transporter transporting the shipment for export;(11/90)

(B) Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgement of Consent, must ensure that a copy of the EPA Acknowledgement of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(ii) Scrap metal that is not excluded under 261.4(a)(13). (10/01);

(iii) Fuels produced from the refining of oil-bearing hazardous waste along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices (this exemption does not apply to fuels produced from oil recovered from oil-bearing hazardous waste, where such recovered oil is already excluded under 261.4(a)(12); (10/01, 6/03)

(iv)(A) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under R.61-79.107.279 and so long as no other hazardous wastes are used to produce the hazardous waste fuel; (12/92, 5/96, 6/03, 6/06)

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under R.61-79.107.279; and (6/06)

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under R.61-79.107.279; and (6/06)

(v) [Reserved 6/06]

(vi) Used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery (2/92, 8/00, 9/01 6/03)

(4) Used oil that is recycled and is also a hazardous waste solely because it exhibits a hazardous characteristic is not subject to the requirements of parts 260 through 268, but is regulated under R.61-79.107.279.11. Used oil that is recycled includes any used oil which is reused, following its original use, for any purpose (including the purpose for which the oil was originally used). Such term includes, but is not limited to, oil which is re-refined, reclaimed, burned for energy recovery, or reprocessed. (12/93, 6/06)

(5) Hazardous waste that is exported to or imported from designated member countries of the Organization for Economic Cooperation and Development (OECD) (as defined in 262.58(a)(1)) for purpose of recovery is subject to the requirements of part 262, subpart H, if it is subject to either the federal manifesting requirements of Part 262, to the universal waste management standards of Part 273. (9/98)

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of 262 and 263 of these Regulations, and the notification requirements under 44-56-120 and section 3010 of RCRA, except as provided in paragraph (a) of this section (12/92).

(c)(1) Owners and operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subparts A through L, AA, BB and CC of 264 and 265, and under 266, 268, 270, and 124 and the notification requirements of section 3010 RCRA and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in 261.6(d).) (11/90, 12/92, 9/98)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under SCHWMA 44-56-120, and section 264.5 or section 265.5 and section 3010 of RCRA; (10/01)

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of 265.

(iii) Section 261.6(d) (12/92).

(d) Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subparts AA and BB of part 264 or 265 (12/92).

261.7 Residues of hazardous waste in empty containers

(a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to regulation under parts 261 through 266, or 268, 124, and 270 or to the notification requirements of section 3010 RCRA and the South Carolina Hazardous Waste Management Act 44-56-120. (11/90, 12/92)

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a

container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under 261 through 266, and 268, 124, and 270 and to the notification requirements of section 3010 RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92).

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in sections 261.31 or 261.33(e) of this regulation, is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, e.g., pouring, pumping, and aspirating, and

(ii) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, or

(iii)(A) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 119 gallons in size; or

(B) No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 119 gallons in size.(2/07)

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in sections 261.31 or 261.33(e) of this regulation is empty if:

(i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

261.8 PCB wastes regulated under Toxic Substance Control Act

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 CFR 761 and that are hazardous only because they fail the test for the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) are exempt from regulation under parts 261 through 265, and parts 268, 270, and 124, and the notification requirements of section 3010 of RCRA and the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92)

261.9 Requirements for Universal Waste

The wastes listed in this section are exempt from regulation under parts 262 through 270 except as specified in part 273 and, therefore are not fully regulated as hazardous waste. The wastes listed in this section are subject to regulation under 273: (5/96, 8/00)

(a) Batteries as described in 273.2;

(b) Pesticides as described in 273.3;

(c) Mercury containing equipment as described in 273.4; and (6/07)

(d) Lamps as described in 273.5.

Subpart B - Criteria for Identifying the Characteristics of Hazardous Waste & for Listing Hazardous Waste

261.10 Criteria for identifying the characteristics of hazardous waste

(a) The Department shall identify and define a characteristic of hazardous waste in subpart C only upon determining that (12/92):

(1) A solid waste that exhibits the characteristic may: (11/90)

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

261.11 Criteria for listing hazardous waste

(a) The Department shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria (12/92):

(1) It exhibits any of the characteristics of hazardous waste identified in subpart C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness.

(Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in appendix VIII and, after considering the following factors, the Department concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed: (12/92)

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into non-harmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Department list classes or types of solid waste as hazardous waste if there is reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste in Section 261.3 and found in section 1004(5) of RCRA.(10/01)

(c) The Department will use the criteria for listing specified in this section to establish the exclusion limits referred to in Section 261.5(c).

Subpart C - Characteristics of Hazardous Waste

261.20 General

(a) A solid waste, as defined in section 261.2, which is not excluded from regulation as a hazardous waste under section 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[Comment: 262.11 sets forth the generators responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart (12/92)]

(b) A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be used in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under 262 through 266, 268, 270 and the notification requirements of the South Carolina Hazardous Waste Management Act 44-56-120 (11/90, 12/92).

(c) For purposes of this subpart, the Department will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of 260.

[Comment: Since the Appendix I sampling methods are not being formally adopted by the Department, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in 260.20 and 260.21 (12/92)].

261.21 Characteristic of ignitability

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140° F) as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see 260.11) or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see 260.11), or as determined by an equivalent test method approved by the Department under procedures set forth in 260.20 and 260.21. (11/90, 12/92)

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.115 and as determined by the test methods described in that regulation or equivalent test methods

approved by the Department under 260.20 and 260.21. (12/93, 6/06)

(4) It is an oxidizer as defined in 49 CFR 173.127. (6/06)

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001 (12/92).

261.22 Characteristic of corrosivity

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties: (12/94)

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using Method 9040 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. (12/93, 9/01)

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA publication SW-846, incorporated by reference in 260.11. (12/93)

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002. (12/92)

261.23 Characteristic of reactivity

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.54, or is a Division 1.1, 1.2 or 1.3 explosive as defined in 49 CFR 173.50 and 173.53.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003. (12/92)

261.24 Toxicity characteristic (11/90)

(a) A solid waste (except manufactured gas plant waste) exhibits the characteristic of toxicity if, using the Toxicity Characteristic Leaching Procedure, test Method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at the concentration equal to or greater than the respective value given in that table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Method 1311, is considered to be the extract for the purpose of this section. (12/92, 12/93, 12/94, 6/03)

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table 1 which corresponds to the toxic contaminant causing it to be hazardous (12/92).

261.24(b) Table 1 Maximum Concentration of Contaminants for the Toxicity Characteristic (11/90)

EPA HW # [1]	Contaminant	CAS No. [2]	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	[4] 200.0
D024	m-Cresol	108-39-4	[4] 200.0
D025	p-Cresol	106-44-5	[4] 200.0
D026	Cresol	.....	[4] 200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5

261.24(b) Table 1 Maximum Concentration of Contaminants for the Toxicity Characteristic (11/90)			
EPA HW # [1]	Contaminant	CAS No. [2]	Regulatory Level (mg/L)
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3] 0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3] 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[3] 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

[1] Hazardous waste number.
[2] Chemical abstracts service number.
[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

Subpart D - Lists of Hazardous Wastes

261.30 General

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under 260.20 and 260.22.

(b) The Department will indicate the basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes: (11/90)

Ignitable Waste (I)
Corrosive Waste (C)
Reactive Waste (R)
Toxicity Characteristic (E)
Acute Hazardous Waste (H)
Toxic Waste (T)

Appendix VII identifies the constituent which caused the Department to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in sections 261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of SC 44-56-120 and RCRA Section 3010 and certain recordkeeping and reporting requirements under 262 through 266, 268, and 270. (12/92)

(d) The following hazardous wastes listed in section 261.31 are subject to the exclusion limits for acutely hazardous wastes established in section 261.5: EPA Hazardous Wastes Numbers F020, F021, F022, F023, F026, and F027.

261.31 Hazardous wastes from non-specific sources

(a) The following solid wastes are listed hazardous wastes from non-specific sources unless they are excluded under 260.20 and 260.22 and listed in Appendix IX.

Industry & EPA HW#	**261.31 Table Hazardous waste from nonspecific sources** (11/90, 12/92)	**Hazard Code**
Generic: F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)

Industry & EPA HW#	261.31 Table Hazardous waste from nonspecific sources (11/90, 12/92)	Hazard Code
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2- trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1, 1, 2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvents mixtures.	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I, T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating a carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations.	(R, T)
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process. (12/93) Wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process will not be subject to this listing at the point of generation if the wastes are not placed outside on the land prior to shipment to a landfill for disposal and are either: disposed in a Subtitle D municipal or industrial landfill unit that is equipped with a single clay liner and is permitted, licensed or otherwise authorized by the state; or disposed in a landfill unit subject to, or otherwise meeting, the landfill requirements in 258.40, 264.301 or 265.301. For the purposes of this listing, motor vehicle manufacturing is defined in paragraph (b)(4)(i) of this section and (b)(4)(ii) of this section describes the recordkeeping requirements for motor vehicle manufacturing facilities. (4/10)	(T)
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4, 5-trichlorophenol.)	(H)
F024	Process wastes, including, but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. [This listing does not include wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in Section 261.31 or 261.32]. (12/93)	(T)

Industry & EPA HW#	261.31 Table Hazardous waste from nonspecific sources (11/90, 12/92)	Hazard Code
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and depositions of chlorine substitution.	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra- or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from pre-purified 2,4,5-trichlorophenol as the sole component.).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 261.35 or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93)	(T)
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93)	(T)
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol. (12/93)	(T)
F037	Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to: those generated in oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing. This listing does include residuals generated from processing or recycling oil-bearing hazardous secondary materials excluded under 261.4(a)(12)(i), if those residuals are to be disposed of. (8/00, 9/01)	(T)
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge-Any sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air flotation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and F037, K048, and K051 wastes are not included in this listing (12/92).	(T)
F039	Leachate (liquids that have percolated through land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F023, F026, F027, and/or F028.) (12/92, 12/93).	(T)

*(I,T) should be used to specify mixtures that are ignitable and contain toxic constituents.

(b) Listing Specific Definitions:

(1) For the purposes of the F037 and F038 listings, oil/water/solids is defined as oil and/or water and/or solids (12/92).

(2) (i) For the purposes of the F037 and F038 listings, aggressive biological treatment units are defined as units which employ one of the following four treatment methods: activated sludge; trickling filter; rotating biological contactor for the continuous accelerated biological oxidation of wastewaters; or high-rate aeration. High-rate aeration is a system of surface impoundments or tanks, in which intense mechanical aeration is used to completely mix the wastes, enhance biological activity, and (A) the units

employs a minimum of 6 hp per million gallons of treatment volume; and either (B) the hydraulic retention time of the unit is no longer than 5 days; or (C) the hydraulic retention time is no longer than 30 days and the unit does not generate a sludge that is a hazardous waste by the Toxicity Characteristic.

(ii) Generators and treatment, storage and disposal facilities have the burden of proving that their sludges are exempt from listing as F037 and F038 wastes under this definition. Generators and treatment, storage and disposal facilities must maintain, in their operating or other onsite records, documents and data sufficient to prove that:

(A) the unit is an aggressive biological treatment unit as defined in this subsection; and

(B) the sludges sought to be exempted from the definitions of F037 and/or F038 were actually generated in the aggressive biological treatment unit. (10/01)

(3)(i) For the purposes of the F037 listing, sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement.

(ii) For the purposes of the F038 listing,

(A) sludges are considered to be generated at the moment of deposition in the unit, where deposition is defined as at least a temporary cessation of lateral particle movement and

(B) floats are considered to be generated at the moment they are formed in the top of the unit.

(4) For the purposes of F019 listing, the following apply to wastewater treatment sludges from the manufacturing of motor vehicles using a zinc phosphating process. (4/10)

(i) Motor vehicle manufacturing is defined to include the manufacture of automobiles and light trucks/utility vehicles. Facilities must be engaged in manufacturing complete vehicles or chassis only.

(ii) Generators must maintain records, to prove that the exempted sludges meet the conditions of the listing. Records must include: volume of waste generated and disposed off site; when the wastes were generated and sent off site; name and address of receiving facility; documentation confirming receipt. Generators must maintain these documents no less than three years. Retention period for documentation is automatically extended during an enforcement action or as requested by the Regional Administrator or state regulatory authority.

261.32 Hazardous wastes from specific sources

(a) The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under 260.20 and 260.22 and listed in Appendix IX. (12/92, 5/96, 9/98, 9/01, 2/07)

261.32 Hazardous wastes from specific sources

Industry, SC & EPA HW #	261.32 Hazardous Wastes from specific sources - Hazardous waste	Hazard code
Wood preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)
K015	Still bottoms from the distillation of benzyl chloride.	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)
K026	Stripping still tails from the production of methy ethyl pyridines.	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)

K083	Distillation bottoms from aniline production.	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K103	Process residues from aniline extraction from the production of aniline.	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(C, T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I, T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	(C, T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups, (This waste does not include still bottoms from the distillation of benzyl chloride.).	(T)
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	(T)
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.).	(T)
K159	Organics from the treatment of thiocarbamate wastes	(T)
K161	Purification solids (including filtration, evaporation, and centrifugation solids), bag house dust and floor sweepings from the production of dithiocarbamate acids and their salts. (This listing does not include K125 or K126.).	(R, T)
K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (including sludges that result from commingled ethylene dichloride or vinyl chloride monomer wastewater and other wastewater), unless the sludges meet the following conditions: (i) they are disposed of in a subtitle C or non-hazardous landfill licensed or permitted by the state or federal government; (ii) they are not otherwise placed on the land prior to final disposal; and (iii) the generator maintains documentation demonstrating that the waste was either disposed of in an on-site landfill or consigned to a transporter or disposal facility that provided a written commitment to dispose of the waste in an off-site landfill. Respondents in any action brought to enforce the requirements of subtitle C must, upon a showing by the government that the respondent managed wastewater treatment sludges from the production of vinyl chloride monomer or ethylene dichloride, demonstrate that they meet the terms of the exclusion set forth above. In doing so, they must provide appropriate documentation (e.g., contracts between the generator and the landfill owner/operator, invoices documenting delivery of waste to landfill, etc.) that the terms of the exclusion were met. (6/02)	(T)

K175	Wastewater treatment sludges from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process. (6/02)	(T)
K181	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of this section that are equal to or greater than the corresponding paragraph (c) levels, as determined on a calendar year basis. These wastes will not be hazardous if the nonwastewaters are: (i) disposed in a Subtitle D landfill unit subject to the design criteria in R 61-107.258.40, (ii) disposed in a Subtitle C landfill unit subject to either 264.301 or 265.301, (iii) disposed in other Subtitle D landfill units that meet the design criteria in R. 61-107.258.40, 264.301, or 265.301, or (iv) treated in a combustion unit that is permitted under Subtitle C, or an onsite combustion unit that is permitted under the Clean Air Act. For the purposes of this listing, dyes and/or pigments production is defined in paragraph (b)(1) of this section. Paragraph (d) of this section describes the process for demonstrating that a facility's nonwastewaters are not K181. This listing does not apply to wastes that are otherwise identified as hazardous under 261.21-261.24 and 261.31-261.33 at the point of generation. Also, the listing does not apply to wastes generated before any annual mass loading limit is met. (2/07)	(T)
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03)	(E)
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03)	(T)
K178	Residues from manufacturing and manufacturing site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process. (6/03)	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid.	(T)
K032	Wastewater treatment sludge from the production of chlordane.	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote.	(T)

K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(T)
K037	Wastewater treatment sludges from the production of disulfoton.	(T)
K038	Wastewater from the washing and stripping of phorate production.	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate.	(T)
K041	Wastewater treatment sludge from the production of toxaphene.	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K098	Untreated process wastewater from the production of toxaphene.	(T)
K099	Untreated wastewater from the production of 2,4-D.	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarb amic acid and its salts.	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C, T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations.	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)
K051	API separator sludge from the petroleum refining industry.	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry.	(T)
K169	Crude oil storage tank sediment from petroleum refining operations (8/00)	(T)
K170	Clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refining operations (8/00)	(T)

K171	Spent Hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media)	(I, T)
K172	Spent Hydrorefining catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media.) (8/00)	(I, T)
Iron and Steel		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C, T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction.	(T)
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting. (Note: This listing is stayed administratively for sludge generated from secondary acid scrubber systems. The stay will remain in effect until further administrative action is taken. If EPA takes further action effecting this stay, EPA will publish a notice of the action in the Federal Register).	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations.	(T)
K087	Decanter tank tar sludge from coking operations(6/95).	(T)
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke from coal or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludges from coking operations).	(T)
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	(T)
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	(T)
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	(T)
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	(T)
K147	Tar storage tank residues from coal tar refining.	(T)
K148	Residues from coal tar distillation, including but not limited to, still bottoms.	(T)
Organotins:		
K900	Waste residues from the manufacture of organotin compounds which contain tri-(organo) substituted tin compounds, to include tributyltin and its analogs. (5/02)	(T)

(b) Listing Specific Definitions:

(1) For the purposes of the K181 listing, dyes and/or pigments production is defined to include manufacture of the following product classes: dyes, pigments, or FDA certified colors that are classified as azo, triarylmethane, perylene or anthraquinone classes. Azo products include azo, monoazo, diazo, triazo, polyazo, azoic, benzidine, and pyrazolone products. Triarylmethane products include both triarylmethane and triphenylmethane products. Wastes that are not generated at a dyes and/or pigments manufacturing site, such as wastes from the offsite use, formulation, and packaging of dyes and/or pigments, are not included in the K181 listing. (2/07)

(c) K181 Listing Levels. Nonwastewaters containing constituents in amounts equal to or exceeding the following levels during any calendar year are subject to the K181 listing, unless the conditions in the K181 listing are met. (2/07)

261.32 (c) Constituent	Chemical abstracts No.	Mass levels (kg/yr)
Aniline	62-53-3	9,300
o-Anisidine	90-04-0	110
4-Chloroaniline	106-47-8	4,800
p-Cresidine	120-71-8	660
2,4-Dimethylaniline	95-68-1	100
1,2-Phenylenediamine	95-54-5	710
1,3-Phenylenediamine	108-45-2	1,200

(d) Procedures for demonstrating that dyes and/or pigment nonwastewaters are not K181. The procedures described in paragraphs (d)(1)-(d)(3) and (d)(5) of this section establish when nonwastewaters from the production of dyes/pigments would not be hazardous (these procedures apply to wastes that are not disposed in landfill units or treated in combustion units as specified in paragraph (a) of this section). If the nonwastewaters are disposed in landfill units or treated in combustion units as described in paragraph (a) of this section, then the nonwastewaters are not hazardous. In order to demonstrate that it is meeting the landfill disposal or combustion conditions contained in the K181 listing description, the generator must maintain documentation as described in paragraph (d)(4) of this section.

(1) Determination based on no K181 constituents. Generators that have knowledge (e.g., knowledge of constituents in wastes based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed) that their wastes contain none of the K181 constituents (see paragraph (c) of this section) can use their knowledge to determine that their waste is not K181. The generator must document the basis for all such determinations on an annual basis and keep each annual documentation for three years.

(2) Determination for generated quantities of 1,000 MT/yr or less for wastes that contain K181 constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is 1,000 metric tons or less, the generator can use knowledge of the wastes (e.g., knowledge of constituents in wastes based on prior analytical data and/or information about raw materials used, production processes used, and reaction and degradation products formed) to conclude that annual mass loadings for the K181 constituents are below the listing levels of paragraph (c) of this section. To make this determination, the generator must:

(i) Each year document the basis for determining that the annual quantity of nonwastewaters expected to be generated will be less than 1,000 metric tons.

(ii) Track the actual quantity of nonwastewaters generated from January 1 through December 31 of each year. If, at any time within the year, the actual waste quantity exceeds 1,000 metric tons, the generator must comply with the requirements of paragraph (d)(3) of this section for the remainder of the year.

(iii) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(iv) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(A) The quantity of dyes and/or pigment nonwastewaters generated.

(B) The relevant process information used.

(C) The calculations performed to determine annual total mass loadings for each K181 constituent in the nonwastewaters during the year.

(3) Determination for generated quantities greater than 1,000 MT/yr for wastes that contain K181 constituents. If the total annual quantity of dyes and/or pigment nonwastewaters generated is greater than 1,000 metric tons, the generator must perform all of the steps described in paragraphs (d)(3)(i)-(d)(3)(xi) of this section in order to make a determination that its waste is not K181.

(i) Determine which K181 constituents (see paragraph (c) of this section) are reasonably expected to be present in the wastes based on knowledge of the wastes (e.g., based on prior sampling and analysis data and/or information about raw materials used, production processes used, and reaction and degradation products formed).

(ii) If 1,2-phenylenediamine is present in the wastes, the generator can use either knowledge or sampling and analysis procedures to determine the level of this constituent in the wastes. For determinations based on use of knowledge, the generator must comply with the procedures for using knowledge described in paragraph (d)(2) of this section and keep the records described in paragraph (d)(2)(iv) of this section. For determinations based on sampling and analysis, the generator must comply with the sampling and analysis and recordkeeping requirements described below in this section.

(iii) Develop a waste sampling and analysis plan (or modify an existing plan) to collect and analyze representative waste samples for the K181 constituents reasonably expected to be present in the wastes. At a minimum, the plan must include:

(A) A discussion of the number of samples needed to characterize the wastes fully;

(B) The planned sample collection method to obtain representative waste samples;

(C) A discussion of how the sampling plan accounts for potential temporal and spatial variability of the wastes.

(D)A detailed description of the test methods to be used, including sample preparation, clean up (if necessary), and determinative methods.

(iv) Collect and analyze samples in accordance with the waste sampling and analysis plan.

(A) The sampling and analysis must be unbiased, precise, and representative of the wastes.

(B) The analytical measurements must be sufficiently sensitive, accurate and precise to support any claim that the constituent mass loadings are below the listing levels of paragraph (c) of this section.

(v) Record the analytical results.

(vi) Record the waste quantity represented by the sampling and analysis results.

(vii) Calculate constituent-specific mass loadings (product of concentrations and waste quantity).

(viii) Keep a running total of the K181 constituent mass loadings over the course of the calendar year.

(ix) Determine whether the mass of any of the K181 constituents listed in paragraph (c) of this section generated between January 1 and December 31 of any year is below the K181 listing levels.

(x) Keep the following records on site for the three most recent calendar years in which the hazardous waste determinations are made:

(A) The sampling and analysis plan.

(B) The sampling and analysis results (including QA/QC data)

(C) The quantity of dyes and/or pigment nonwastewaters generated.

(D) The calculations performed to determine annual mass loadings.

(xi) Nonhazardous waste determinations must be conducted annually to verify that the wastes remain nonhazardous.

(A) The annual testing requirements are suspended after three consecutive successful annual demonstrations that the wastes are nonhazardous. The generator can then use knowledge of the wastes to support subsequent annual determinations.

(B) The annual testing requirements are reinstated if the manufacturing or waste treatment processes generating the wastes are significantly altered, resulting in an increase of the potential for the wastes to exceed the listing levels.

(C) If the annual testing requirements are suspended, the generator must keep records of the process knowledge information used to support a nonhazardous determination. If testing is reinstated, a description of the process change must be retained.

(4) Recordkeeping for the landfill disposal and combustion exemptions. For the purposes of meeting the landfill disposal and combustion condition set out in the K181 listing description, the generator must maintain on site for three years documentation demonstrating that each shipment of waste was received by a landfill unit that is subject to or meets the landfill design standards set out in the listing description, or was treated in combustion units as specified in the listing description.

(5) Waste holding and handling. During the interim period, from the point of generation to completion of the hazardous waste determination, the generator is responsible for storing the wastes appropriately. If the wastes are determined to be hazardous and the generator has not complied with the subtitle C requirements during the interim period, the generator could be subject to an enforcement action for improper management. (2/07)

261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof (11/90)

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in section 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section. (12/92)

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, unless the container is empty as defined in Section 261.7(b). (12/92).

[Comment: Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, reuse, recycling or reclamation, the Department considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner

who reconditions the drum but discards the residue (12/92).]

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either sections 261.31 or 261.32 or will be identified as a hazardous waste by the characteristics set forth in subpart C of this part. (12/92)].

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in section 261.5(e).

[Comment: For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number. (12/92, 12/93).]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

HW #	Chemical abstracts #	261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96)
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P203	1646-88-4	Aldicarb sulfone.(5/96)
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C-), potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl-], (R)
P046	122-09-8	Benzeneethanamine, alpha, alpha-dimethyl-
P014	108-98-5	Benzenethiol

HW #	Chemical abstracts #	261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96)
P127	1563-66-2	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate.(5/96)
P188	57-64-7	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis)-1,2,3,3a,8,8a-hexahydro-1, 3a,8-trimethylpyrrolo[2,3-b]indol-5-yl methylcarbamate ester (1:1). (5/96)
P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium powder
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)- O-[(methylamino)carbonyl]oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P189	55285-14-8	Carbamic acid, [(dibutylamino)- thio]methyl-, 2,3-dihydro-2,2-dimethyl- 7-benzofuranyl ester (5/96)
P191	644-64-4	Carbamic acid, dimethyl-, 1-[(dimethyl-amino)carbonyl]- 5-methyl-1H- pyrazol-3-yl ester. (5/96)
P192	119-38-0	Carbamic acid, dimethyl-, 3-methyl-1- (1-methylethyl)-1H- pyrazol-5-yl ester.(5/96)
P190	1129-41-5	Carbamic acid, methyl-, 3-methylphenyl ester. (5/96)
P127	1563-66-2	Carbofuran. (5/96)
P095	75-44-5	Carbonic dichloride
P189	55285-14-8	Carbosulfan. (5/96)
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P202	64-00-6	m-Cumenyl methylcarbamate.(5/96)
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-, hexahydro-,(1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6, 6a,7,7a-octahydro-,(1aalpha,2beta,2aalpha,3beta,6beta,6aalpha, 7beta,7aalpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6, 6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha,6abeta, 7beta,7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P191	644-64-4	Dimetilan.(5/96)
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P185	26419-73-8	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O- [(methylamino)- carbonyl]oxime. (5/96)
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P194	23135-22-0	Ethanimidothioic acid, 2- (dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester.(5/96)

HW #	Chemical abstracts #	261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96)
P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P198	23422-53-9	Formetanate hydrochloride. (5/96)
P197	17702-57-7	Formparanate. (5/96)
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P192	119-38-0	Isolan. (5/96)
P202	64-00-6	3-Isopropylphenyl N-methylcarbamate.(5/96)
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P196	15339-36-3	Manganese, bis(dimethylcarbamodithioato-S,S')-, (5/96)
P196	15339-36-3	Manganese dimethyldithiocarbamate. (5/96)
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)
P198	23422-53-9	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino)-carbonyl]oxy]phenyl]-, monohydrochloride (5/96)
P197	17702-57-7	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino)carbonyl] oxy]phenyl]- (5/96)
P199	2032-65-7	Methiocarb. (5/96)
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10- hexachloro-1,5,5a,6, 9,9a-hexahydro-,3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P190	1129-41-5	Metolcarb. (5/96)
P128	315-18-4	Mexacarbate. (4/96)
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cyanide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P194	23135-22-0	Oxamyl. (5/96)
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro

HW #	Chemical abstracts #	261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96)
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P128	315-18-4	Phenol, 4-(dimethylamino)-3,5-dimethyl-,methylcarbamate (ester). (5/96)
P199	2032-65-7	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate (5/96)
P202	64-00-6	Phenol, 3-(1-methylethyl)-, methyl carbamate. (5/96)
P201	2631-37-0	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate. (5/96)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl]ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,Odimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P204	57-47-6	Physostigmine. (5/96)
P188	57-64-7	Physostigmine salicylate. (5/96)
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K (CN)
P099	506-61-6	Potassium silver cyanide
P201	2631-37-0	Promecarb (5/96)
P203	1646-88-4	Propanal,2-methyl-2-(methyl-sulfonyl)-,O-[(methylamino)carbonyl] oxime. (5/96)
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2 Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl),- (S)-, & salts
P204	57-47-6	Pyrrolo[2,3-b]indol-5-ol, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)- (5/96)
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag (CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na (CN)
P108	[1]57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester

HW #	Chemical abstracts #	261.33(e) Lists of Acute Hazardous Wastes Substance (11/90, 12/92, 5/96)
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P185	26419-73-8	Tirpate. (5/96)
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P205	137-30-4	Zinc, bis(dimethylcarbamodithioato-S,S')-, (5/96)
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)
P205	137-30-4	Ziram. (5/96)

FOOTNOTE: [1]CAS Number given for parent compound onl

(f) The commercial chemical products, manufacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in Section 261.5 (a) and (g). (5/96)

[Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity. Wastes are first listed in alphabetical order by substance and then listed again in numerical order by Hazardous Waste Number. (12/92; 5/96).]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

261.33(f) Lists of Subpart D Toxic Hazardous Wastes		
HW #	**CAS#**	**Substance** (11/90; 12/92; 12/93; 5/96, 9/98)
U394	30558-43-1	A2213 (5/96)
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U240	[1]94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo(1,2-a)indole-4,7- dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
U280	101-27-9	Barban. (5/96)
U278	22781-23-3	Bendiocarb. (5/96)
U364	22961-82-6	Bendiocarb phenol. (5/96)

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U271	17804-35-2	Benomyl. (5/96)
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2- propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N- dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4- chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2- chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	[1]81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U278	22781-23-3	1,3Benzodioxol-4ol, 2,2dimethyl, methyl carbamate. (5/96)
U364	22961-82-6	1,3Benzodioxol4ol, 2,2dimethyl,
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U367	1563-38-8	7Benzofuranol, 2,3-dihydro2,2-dimethyl (5/96)
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl- butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1- oxobutoxy]methyl]- 2,3,5,7a-tetrahydro-1H- pyrrolizin-1-yl ester,... [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U372	10605-21-7	Carbamic acid, 1H-benzimidazol-2-yl, methyl
U271	17804-35-2	Carbamic acid, [1-[(butylamino)carbonyl]-1H- benzimidazol-2-yl]-, methyl ester. (5/96)
U280	101-27-9	Carbamic acid, (3-chlorophenyl)-, 4-chloro-2- butynyl ester. (5/96)
U373	122-42-9	Carbamic acid, phenyl-, 1-methylethyl ester.
U409	23564-05-8	Carbamic acid, [1,2-phenylenebis (iminocarbonothioyl)]bis-, dimethyl ester. (5/96)
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U389	2303-17-5	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester. (5/96)
U387	52888-80-9	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester. (5/96)
U279	63-25-2	Carbaryl. (5/96)
U372	10605-21-7	Carbendazim. (5/96)
U367	1563-38-8	Carbofuran phenol. (5/96)
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I, T)
U033	353-50-4	Carbon oxyfluoride (R, T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazin
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051	----	Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108-94-1	Cyclohexanone (I)

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	[1]94-75-7	2,4-D, salts & esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I, T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I, T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U395	5952-26-1	Diethylene glycol, dicarbamate. (5/96)
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U404	121-44-8	Ethanamine, N,N-diethyl- (5/96)
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2- pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis-(I)

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U410	59669-26-0	Ethanimidothioic acid, N,N'-[thiobis[(methylimino)carbonyloxy]]bis-, dimethyl ester (5/96)
U394	30558-43-1	Ethanimidothioic acid, 2-(dimethylamino)-N- hydroxy-2-oxo-, methyl ester.
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U395	5952-26-1	Ethanol, 2,2'-oxybis-, dicarbamate. (5/96)
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I, T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C, T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro-(I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3- nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)- carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R, T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C, T)
U134	7664-39-3	Hydrogen fluoride (C, T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H_2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U140	78-83-1	Isobutyl alcohol (I, T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I, T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I, T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8- octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2- one, 1,1a,3,3a,4,5,5,5a,5b,6- decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I, T)
U156	79-22-1	Methyl chlorocarbonate (I, T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I, T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R, T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I, T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3- amino-2,3,6-trideoxy)-alpha-L-lyxo- hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'- dimethyl[1,1'-biphenyl]-4,4'- diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U279	63-25-2	1-Naphthalenol, methylcarbamate. (5/96)

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I, T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I, T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N- bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I, T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U411	114-26-1	Phenol, 2-(1-methylethoxy)-, methylcarbamate. (5/96)
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I, T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I, T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I, T)

261.33(f) Lists of Subpart D Toxic Hazardous Wastes

HW #	CAS#	Substance (11/90; 12/92; 12/93; 5/96, 9/98)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I, T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I, T)
U373	112-42-9	Propham. (5/96)
U411	114-26-1	Propoxur. (5/96)
U194	107-10-8	n-Propylamine (I, T)
U083	78-87-5	Propylene dichloride
U387	52888-80-9	Prosulfocarb. (5/96)
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2- chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2- thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	[1]81-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS_2 (R, T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride TlCl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U410	59669-26-0	Thiodicarb. (5/96)
U153	74-93-1	Thiomethanol (I, T)
U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$,tetramethyl-
U409	23564-05-8	Thiophanate-methyl. (5/96)
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R, T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U389	2303-17-5	Triallate. (5/96)
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane

261.33(f) Lists of Subpart D Toxic Hazardous Wastes		
HW #	**CAS#**	**Substance** (11/90; 12/92; 12/93; 5/96, 9/98)
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U404	121-44-8	Triethylamine.(5/96)
U234	99-35-4	1,3,5-Trinitrobenzene (R, T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1]81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17- dimethoxy-18-[(3,4,5- trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

[1]CAS Number given for parent compound only.

261.34 [Reserved]

261.35 Deletion of certain hazardous waste codes following equipment cleaning and replacement

(a) Wastes from wood preserving processes at plants that do not resume or initiate use of chlorophenolic preservatives will not meet the listing definition of F032 once the generator has met all of the requirements of paragraphs (b) and (c) of this section. These wastes may, however, continue to meet another hazardous waste listing description or may exhibit one or more of the hazardous waste characteristics.

(b) Generators must either clean or replace all process equipment that may have come into contact with chlorophenolic formulations or constituents thereof, including, but not limited to, treatment cylinders, sumps, tanks, piping systems, drip pads, fork lifts, and trams, in a manner that minimizes or eliminates the escape of hazardous waste or constituents, leachate, contaminated drippage, or hazardous waste decomposition products to the ground water, surface water, or atmosphere.

(1) Generators shall do one of the following:

(i) Prepare and follow an equipment cleaning plan and clean equipment in accordance with this section;

(ii) Prepare and follow an equipment replacement plan and replace equipment in accordance with this section; or

(iii) Document cleaning and replacement in accordance with this section, carried out after termination of use of chlorophenolic preservations.

(2) Cleaning Requirements.

(i) Prepare and sign a written equipment cleaning plan that describes:

(A) The equipment to be cleaned;

(B) How the equipment will be cleaned;

(C) The solvent to be used in cleaning;

(D) How solvent rinses will be tested; and

(E) How cleaning residues will be disposed.

(ii) Equipment must be cleaned as follows:

(A) Remove all visible residues from process equipment;

(B) Rinse process equipment with an appropriate solvent until dioxins and dibenzofurans are not detected in the final solvent rinse.

(iii) Analytical requirements.

(A) Rinses must be tested in accordance with SW-846, Method 8290.

(B) "Not detected" means at or below the lower method calibration limit (MCL) in Method 8290, Table 1.

(iv) The generator must manage all residues from the cleaning process as F032 waste.

(3) Replacement requirements.

(i) Prepare and sign a written equipment replacement plan that describes:

(A) The equipment to be replaced;

(B) How the equipment will be replaced; and

(C) How the equipment will be disposed.

(ii) The generator must manage the discarded equipment as F032 waste.

(4) Documentation requirements.

(i) Document that previous equipment cleaning and/or replacement was performed in accordance with this section and occurred after cessation of use of chlorophenolic preservatives.

(c) The generator must maintain the following records documenting the cleaning and replacement as part of the facility's operating record:

(1) The name and address of the facility;

(2) Formulations previously used and the date on which their use ceased in each process at the plant;

(3) Formulations currently used in each process at the plant;

(4) The equipment cleaning or replacement plan;

(5) The name and address of any persons who conducted the cleaning and replacement;

(6) The dates on which cleaning and replacement were accomplished;

(7) The dates of sampling and testing;

(8) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, preservation, and chain-of-custody of the samples;

(9) A description of the tests performed, the date the tests were performed, and the results of the tests;

(10) The name and model numbers of the instrument(s) used in performing the tests;

(11) QA/QC documentation; and

(12) The following statement signed by the generator or his authorized representative:

I certify under penalty of law that all process equipment required to be cleaned or replaced under 261.35 was cleaned or replaced as represented in the equipment cleaning and replacement plan and accompanying documentation. I am aware that there are significant penalties for providing false information, including the possibility of fine or imprisonment.

Subpart E--Exclusions/Exemptions

261.38 Exclusion of comparable fuel and syngas fuel.

(*a*) *Specifications for excluded fuels*

261.38 Exclusion of comparable fuel and syngas fuel. Wastes that meet the specifications for comparable fuel or syngas fuel under paragraphs (a)(1) or (a)(2) of this section, respectively, and the other requirements of this section, are not solid wastes

(1) Comparable fuel specifications.

(i) Physical specifications.

(A) Heating value. The heating value must exceed 5,000 Btu/lbs. (11,500 J/g).

(B) Viscosity. The viscosity must not exceed: 50 [cS], as-fired.

(ii) Constituent specifications. For compounds listed in Table 1 to this section, the specification levels and, where non-detect is the specification, minimum required detection limits are: [see Table 1 of this section]

(2) Synthesis gas fuel specifications. Synthesis gas fuel (i.e., syngas fuel) that is generated from hazardous waste must:

(i) Have a minimum Btu value of 100 Btu/Scf;

(ii) Contain less than 1 ppmv of total halogen;

(iii) Contain less than 300 ppmv of total nitrogen other than diatomic nitrogen (N_2);

(iv) Contain less than 200 ppmv of hydrogen sulfide; and

(v) Contain less than 1 ppmv of each hazardous constituent in the target list of appendix VIII constituents of this part.

261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS #	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Total Nitrogen as N	NA	9000	18400	4900~	
Total Halogens as Cl	NA	1000	18400	540	
Total Organic Halogens as Cl	NA			([1])	
Polychlorinated biphenyls, total [Arocolors, total]	1336-36-3	ND		ND	1.4
Cyanide, total.....	57-12-5	ND		ND	1.0
Metals:					
Antimony, total	7440-36-0	ND		12	
Arsenic, total	7440-38-2	ND		0.23	
Barium, total	7440-39-3	ND		23	
Beryllium, total	7440-41-7	ND		1.2	
Cadmium, total	7440-43-9		ND		1.2
Chromium, total	7440-47-3	ND		2.3	
Cobalt	7440-48-4	ND		4.6	
Lead, total	7439-92-1	57	18100	31	
Manganese	7439-96-5	ND		1.2	
Mercury total	7439-97-6	ND		0.25	
Nickel, total	7440-02-0	106	18400	58	
Selenium, total	7782-49-2	ND		0.23	
Silver, total	7440-22-4	ND		2.3	
Thallium, total	7440-28-0	ND		23	
Hydrocarbons:					
Benzo[a]anthracene	56-55-3	ND		2400	
Benzene	71-43-2	8000	19600	4100	
Benzo[b]fluoranthene	205-99-2	ND		2400	
Benzo[k]fluoranthene	207-08-9	ND		2400	
Benzo[a]pyrene	50-32-8	ND		2400	
Chrysene	218-01-9	ND		2400	

261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS #	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Dibenzo[a, h]anthracene	53-70-3	ND		2400	
7,12-Dimethylbenz[a]anthracene	57-97-6	ND		2400	
Fluoranthene	206-44-0	ND		2400	
Indeno(1,2,3-cd)pyrene	193-39-5	ND		2400	
3-Methylcholanthrene	56-49-5	ND		2400	
Naphthalene	91-20-3	6200	19400	3200	
Toluene	108-88-3	69000	19400	36000	
Oxygenates:					
Acetophenone	98-86-2	ND		2400	
Acrolein	107-02-8	ND		39	
Allyl alcohol	107-18-6	ND		30	
Bis(2-ethylhexyl)phthalate [Di-2-ethylhexyl phthalate]	117-81-7	ND		2400	
Butyl benzyl phthalate	85-68-7	ND		2400	
o-Cresol [2-Methyl phenol]	95-48-7	ND		2400	
m-Cresol [3-Methyl phenol]	108-39-4	ND		2400	
p-Cresol [4-Methyl phenol]	106-44-5	ND		2400	
Di-n-butyl phthalate	84-74-2	ND		2400	
Diethyl phthalate	84-66-2	ND		2400	
2,4-Dimethylphenol	105-67-9	ND		2400	
Dimethyl phthalate	131-11-3	ND		2400	
Di-n-octyl phthalate	117-84-0	ND		2400	
Endothall	145-73-3	ND		100	
Ethyl methacrylate	97-63-2	ND		39	
2-Ethoxyethanol [Ethylene glycol monoethyl ether]	110-80-5	ND		100	
Isobutyl alcohol	78-83-1	ND		39	
Isosafrole	120-58-1	ND		2400	
Methyl ethyl ketone [2-Butanone]	78-93-3	ND		39	
Methyl methacrylate	80-62-6	ND		39	
1,4-Naphthoquinone	130-15-4	ND		2400	
Phenol	108-95-2	ND		2400	
Propargyl alcohol [2-Propyn-1-ol]	107-19-7	ND		30	
Safrole	94-59-7	ND		2400	
Sulfonated Organics:					
Carbon disulfide	75-15-0	ND		ND	39
Disulfoton	298-04-4	ND		ND	2400
Ethyl methanesulfonate	62-50-0	ND		ND	2400
Methyl methanesulfonate	66-27-3	ND		ND	2400
Phorate	298-02-2	ND		ND	2400
1,3-Propane sultone	1120-71-4	ND		ND	100
Tetraethyldithiopyrophosphate [Sulfotepp]	3689-24-5	ND		ND	2400
Thiophenol [Benzenethiol]	108-98-5	ND		ND	30
O,O,O-Triethyl phosphorothioate	126-68-1	ND		ND	2400
Nitrogenated Organics:					
Acetonitrile [Methyl cyanide]	75-05-8	ND		ND	39
2-Acetylaminofluorene [2-AAF]	53-96-3	ND		ND	2400
Acrylonitrile	107-13-1	ND		ND	39
4-Aminobiphenyl	92-67-1	ND		ND	2400
4-Aminopyridine	504-24-5	ND		ND	100
Aniline	62-53-3	ND		ND	2400
Benzidine	92-87-5	ND		ND	2400
Dibenz[a, j]acridine	224-42-0	ND		ND	2400
O,O-Diethyl O-pyrazinyl phosphorothioate [Thionazin]	297-97-2	ND		ND	2400
Dimethoate	60-51-5	ND		ND	2400
p-(Dimethylamino) azobenzene [4-Dimethylaminoazobenzene]	60-11-7	ND		ND	2400
3,3'-Dimethylbenzidine	119-93-7	ND		ND	2400
a , a-Dimethylphenethylamine	122-09-8	ND		ND	2400
3,3'-Dimethoxybenzidine	119-90-4	ND		ND	100
1,3-Dinitrobenzene [m-Dinitrobenzene]	99-65-0	ND		ND	2400
4,6-Dinitro-o-cresol	534-52-1	ND		ND	2400

261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS #	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
2,4-Dinitrophenol	51-28-5	ND		ND	2400
2,4-Dinitrotoluene	121-14-2	ND		ND	2400
2,6-Dinitrotoluene	606-20-2	ND		ND	2400
Dinoseb [2-sec-Butyl-4,6-dinitrophenol]	88-85-7	ND		ND	2400
Diphenylamine	122-39-4	ND		ND	2400
Ethyl carbamate [Urethane]	51-79-6	ND		ND	100
Ethylenethiourea (2-Imidazolidinethione)	96-45-7	ND		ND	110
Famphur	52-85-7	ND		ND	2400
Methacrylonitrile	126-98-7	ND		ND	39
Methapyrilene	91-80-5	ND		ND	2400
Methomyl	16752-77-5	ND		ND	57
2-Methyllactonitrile, [Acetone cyanohydrin]	75-86-5	ND		ND	100
Methyl parathion	298-00-0	ND		ND	2400
MNNG (N-Metyl-N-nitroso-N'-nitroguanidine)	70-25-7	ND		ND	110
1-Naphthylamine, [α -Naphthylamine]	134-32-7	ND		ND	2400
2-Naphthylamine, [β -Naphthylamine]	91-59-8	ND		ND	2400
Nicotine	54-11-5	ND		ND	100
4-Nitroaniline [p-Nitroaniline]	100-01-6	ND		ND	2400
Nitrobenzene	98-95-3	ND		ND	2400
p-Nitrophenol, [p-Nitrophenol]	100-02-7	ND		ND	2400
5-Nitro-o-toluidine	99-55-8	ND		ND	2400
N-Nitrosodi-n-butylamine	924-16-3	ND		ND	2400
N-Nitrosodiethylamine	55-18-5	ND		ND	2400
N-Nitrosodiphenylamine, [Diphenylnitrosamine]	86-30-6	ND		ND	2400
N-Nitroso-N-methylethylamine	10595-95-6	ND		ND	2400
N-Nitrosomorpholine	59-89-2	ND		ND	2400
N-Nitrosopiperidine	100-75-4	ND		ND	2400
N-Nitrosopyrrolidine	930-55-2	ND		ND	2400
2-Nitropropane	79-46-9	ND		ND	30
Parathion	56-38-2	ND		ND	2400
Phenacetin	62-44-2	ND		ND	2400
1,4-Phenylene diamine, [p-Phenylenediamine]	106-50-3	ND		ND	2400
N-Phenylthiourea	103-85-5	ND		ND	57
2-Picoline [alpha-Picoline]	109-06-8	ND		ND	2400
Propylthioracil, [6-Propyl-2-thiouracil]	51-52-5	ND		ND	100
Pyridine	110-86-1	ND		ND	2400
Strychnine	57-24-9	ND		ND	100
Thioacetamide	62-55-5	ND		ND	57
Thiofanox	39196-18-4	ND		ND	100
Thiourea	62-56-6	ND		ND	57
Toluene-2,4-diamine [2,4-Diaminotoluene]	95-80-7	ND		ND	57
Toluene-2,6-diamine [2,6-Diaminotoluene]	823-40-5	ND		ND	57
o-Toluidine	95-53-4	ND		ND	2400
p-Toluidine	106-49-0	ND		ND	100
1,3,5-Trinitrobenzene, [sym-Trinitobenzene]	99-35-4	ND		ND	2400
Halogenated Organics:					
Allyl chloride	107-05-1	ND		ND	39
Aramite	140-57-8	ND		ND	2400
Benzal chloride [Dichloromethyl benzene]	98-87-3	ND		ND	100
Benzyl chloride	100-44-77	ND		ND	100
bis(2-Chloroethyl)ether [Dichoroethyl ether]	111-44-4	ND		ND	2400
Bromoform [Tribromomethane]	75-25-2	ND		ND	39
Bromomethane [Methyl bromide]	74-83-9	ND		ND	39
4-Bromophenyl phenyl ether [p-Bromo diphenyl ether]	101-55-3	ND		ND	2400
Carbon tetrachloride	56-23-5	ND		ND	39
Chlordane	57-74-9	ND		ND	14
p-Chloroaniline	106-47-8	ND		ND	2400
Chlorobenzene	108-90-7	ND		ND	39
Chlorobenzilate	510-15-6	ND		ND	2400
p-Chloro-m-cresol	59-50-7	ND		ND	2400
2-Chloroethyl vinyl ether	110-75-8	ND		ND	39

261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS #	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Chloroform	67-66-3	ND		ND	39
Chloromethane [Methyl chloride]	74-87-3	ND		ND	39
2-Chloronaphthalene [beta-Chloronaphthalene]	91-58-7	ND		ND	2400
2-Chlorophenol [o-Chlorophenol]	95-57-8	ND		ND	2400
Chloroprene [2-Chloro-1,3-butadiene]	1126-99-8	ND		ND	39
2,4-D [2, 4-Dichlorophenoxyacetic acid]	94-75-7	ND		ND	7.0
Diallate	2303-16-4	ND		ND	2400
1,2-Dibromo-3-chloropropane	96-12-8	ND		ND	39
1,2-Dichlorobenzene [o-Dichlorobenzene]	95-50-1	ND		ND	2400
1,3-Dichlorobenzene [m-Dichlorobenzene]	541-73-1	ND		ND	2400
1,4-Dichlorobenzene [p-Dichlorobenzene]	106-46-7	ND		ND	2400
3,3'-Dichlorobenzidine	91-94-1	ND		ND	2400
Dichlorodifluoromethane [CFC-12]	75-71-8	ND		ND	39
1,2-Dichloroethane [Ethylene dichloride]	107-06-2	ND		ND	39
1,1-Dichloroethylene [Vinylidene chloride]	75-35-4	ND		ND	39
Dichloromethoxy ethane [Bis(2-chloroethoxy)methane]	111-91-1	ND		ND	2400
2,4-Dichlorophenol	120-83-2	ND		ND	2400
2,6-Dichlorophenol	87-65-0	ND		ND	2400
1,2-Dichloropropane [Propylene dichloride]	78-87-5	ND		ND	39
cis-1,3-Dichloropropylene	10061-01-5	ND		ND	39
trans-1,3 -Dichloropropylene	10061-02-6	ND		ND	39
1,3-Dichloro-2-propanol	96-23-1	ND		ND	30
Endosulfan I	959-98-8	ND		ND	1.4
Endosulfan II	33213-65-9	ND		ND	1.4
Endrin	72-20-8	ND		ND	1.4
Endrin aldehyde	7421-93-4	ND		ND	1.4
Endrin Ketone	53494-70-5	ND		ND	1.4
Epichlorohydrin [1-Chloro-2,3-epoxy propane]	106-89-8	ND		ND	30
Ethylidene dichloride [1,1-Dichloroethane]	75-34-3	ND		ND	39
2-Fluoroacetamide	640-19-7	ND		ND	100
Heptachlor	76-44-8	ND		ND	1.4
Heptachlor epoxide	1024-57-3	ND		ND	2.8
Hexachlorobenzene	118-74-1	ND		ND	2400
Hexachloro-1, 3-butadiene [Hexachlorobutadiene]	87-68-3	ND		ND	2400
Hexachlorocyclopentadiene	77-47-4	ND		ND	2400
Hexachloroethane	67-72-1	ND		ND	2400
Hexachlorophene	70-30-4	ND		ND	59000
Hexachloropropene [Hexachloropropylene]	1888-71-7	ND		ND	2400
Isodrin	465-73-6	ND		ND	2400
Kepone [Chlordecone]	143-50-0	ND		ND	4700
Lindane [gamma-BHC] [gamma-Hexachlorocyclohexane]	58-89-9	ND		ND	1.4
Methylene chloride [Dichloromethane]	75-09-2	ND		ND	39
4,4'-Methylene-bis(2-chloroaniline)	101-14-4	ND		ND	100
Methyl iodide [Iodomethane]	74-88-4	ND		ND	39
Pentachlorobenzene	608-93-5	ND		ND	2400
Pentachloroethane	76-01-7	ND		ND	39
Pentachloronitrobenzene [PCNB] [Quintobenzene] [Quintozene]	82-68-8	ND		ND	2400
Pentachlorophenol	87-86-5	ND		ND	2400
Pronamide	23950-58-5	ND		ND	2400
Silvex [2,4,5-Trichlorophenoxypropionic acid]	93-72-1	ND		ND	7.0
2,3,7,8-Tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]	1746-01-6	ND		ND	30
1,2,4,5-Tetrachlorobenzene	95-94-3	ND		ND	2400
1,1,2,2-Tetrachloroethane	79-34-5	ND		ND	39
Tetrachloroethylene [Perchloroethylene]	127-18-4	ND		ND	39
2,3,4,6-Tetrachlorophenol	58-90-2	ND		ND	2400
1,2,4-Trichlorobenzene	120-82-1	ND		ND	2400
1,1,1-Trichloroethane [Methyl chloroform]	71-55-6	ND		ND	39
1,1,2-Trichloroethane [Vinyl trichloride]	79-00-5	ND		ND	39
Trichloroethylene	79-01-6	ND		ND	39

261.38 Table 1 Detection and Detection Limit Values for Comparable Fuel Specification

Chemical name	CAS #	Composite value (mg/kg)	Heating value (BTU/lb)	Concentration limit (mg/kg at 10,000 BTU/lb)	Minimum required detection limit (mg/kg)
Trichlorofluoromethane [Trichlormonofluoromethane]	75-69-4	ND		ND	39
2,4,5-Trichlorophenol	95-95-4	ND		ND	2400
2,4,6-Trichlorophenol	88-06-2	ND		ND	2400
1,2,3-Trichloropropane	96-18-4	ND		ND	39
Vinyl Chloride	75-01-4	ND		ND	39

Notes: NA - Not Applicable.
ND - Nondetect
(1) 25 or individual halogenated organics listed below.

(3) *Blending to meet the specifications.*

(i) Hazardous waste shall not be blended to meet the comparable fuel specification under paragraph (a)(1) of this section, except as provided by paragraph (a)(3)(ii) of this section:

(ii) *Blending to meet the viscosity specification*. A hazardous waste blended to meet the viscosity for comparable fuel shall:

(A) As generated and prior to any blending, manipulation, or processing, meet the constituent and heating value specification of paragraphs (a)(1)(i)(A) and (a)(1)(ii) of this section;

(B) Be belended at a facility that is subject to the applicable requirements of parts 264, 265, or 267, or 262.34 of this chapter; and

(C) Not violate the dilution prohibition of paragraph (a)(6) of this section.

(4) *Treatment to meet the comparable fuel specifications.*

(i) A hazardous waste may be treated to meet the specifications for comparable fuel set forth in paragraph (a)(1) of this section provided the treatment:

(A) Destroys or removes the constituents listed in the specification or raises the heating value by removing or disturbing hazardous constituents or materials

(B) Is performed at a facility that is subject to the applicable requirements of parts 264, 265, or 267, or 262.34 of this chapter; and

(C) Does not violate the dilution prohibition of paragraph (a)(6) of tis section.

(ii) Residuals resulting from the treatment of a hazardous waste listed in subpart D of this part to generate a syngas fuel remain a hazardous waste.

(6) *Dilution prohibition*. No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a hazardous waste to meet the specifications of paragraph (a)(1)(i)(A) or (a)(1)(ii) of this section for comparable fuel, or paragraph (a)(2) of this section for syngas.

(b) *Implementation*

(1) *General*

(i) Wastes that meet the specifications provided by paragraph (a) of this section for comparable fuel or syngas fuel are excluded from the definition of solid waste provided that the conditions under this section are met. For purposes of this section, such materials are called excluded fuel; the person claiming and qualifying for the exclusion is called the excluded fuel generator and the person burning the excluded fuel is called the excluded fuel burner.

(ii) The person who generates the excluded fuel must claim the exclusion by complying with the condition of this section and keeping records necessary to document compliance with those conditions.

(2) *Notices*. For purposes of this section, the person claiming and qualifying for the exclusion is called the comparable/syngas fuel generator and the person burning the comparable/syngas fuel is called the comparable/syngas burner. The person who generates the comparable fuel or syngas fuel must claim and certify to the exclusion.

(i) Notices to State RCRA and CAA Directors in authorized States or regional RCRA and CAA Directors in unauthorized States.

(A) The generator must submit a one-time notice, except as provided by paragraph (b)(2)(i)(C) of this section, to the Regional or State RCRA and CAA Directors, in whose jurisdiction the exclusion is being claimed and where the excluded fuel will be burned, certifying compliance with the conditions of the exclusion and providing the following documentation:

(1) The name, address, and RCRA ID number of the person/facility claiming the exclusion;

(2) The applicable EPA Hazardous Waste Code(s) that would otherwise apply to the excluded fuel;

(3) The name and address of the units meeting the requirements of paragraphs (b)(3) and (c) of this section, that will burn the excluded fuel;

(4) An estimate of the average and maximum monthly and annual quantity of material for which an exclusion would be claimed, except as provided by paragraph (b)(2)(i)(C) of this section; and

(5) The following statement, which shall be signed and submitted by the person claiming the exclusion or his authorized representative:

Under penalty of criminal and civil prosecution for making or submitting false statements, representations,

or omissions, I certify that the requirements of 261.38 have been met for all comparable fuels identified in this notification. Copies of the records and information required at 261.38(b)(8) are available at the generator's facility. Based on my inquiry of the individuals immediately responsible for obtaining the information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

(B) If there is a substantive change in the information provided in the notice required under this paragraph, the generator must submit a revised notification.

(C) Excluded fuel generators must include an estimate of the average and maximum monthly and annual quantity of material for which an exclusion would be claimed only in notices submitted after December 19, 2008 for newly excluded fuel or for revised notices as required by paragraph (b)(2)(i)(B) of this section.

(ii) Public notice. Prior to burning an excluded fuel, the burner must publish in a major newspaper of general circulation local to the site where the fuel will be burned, a notice entitled “Notification of Burning a Fuel Excluded Under the Resource Conservation and Recovery Act” and containing the following information:

(A) Name, address, and RCRA ID number of the generating facilities;

(B) Name and address of the burner and identification of the unit(s) that will burn theexcluded fuel;

(C) A brief, general description of the manufacturing, treatment, or other process generating the excluded fuel;

(D) An estimate of the average and maximum monthly and annual quantity of the excluded fuel to be burned; and

(E) Name and mailing address of the Regional or State Directors to whom the generator submitted a claim for the exclusion.

(3) *Burning.* The exclusion applies only if the fuel is burned in the following units that also shall be subject to Federal/State/local air emission requirements, including all applicable requirements implementing section 112 of the Clean Air Act:

(i) Industrial furnaces as defined in 260.10 of this chapter;

(ii) Boilers, as defined in 260.10 of this chapter, that are further defined as follows:

(A) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(B) Utility boilers used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale;

(iii) Hazardous waste incinerators subject to regulation under subpart O of parts 264 or 265 of this chapter and applicable CAA MACT standards.

(iv) Gas turbines used to produce electric power, steam, heated or cooled air, or other gases or fluids for sale.

(4) *Fuel analysis plan for generators.* The generator of an excluded fuel shall develop and follow a written fuel analysis plan which describes the procedures for sampling and analysis of the material to be excluded. The plan shall be followed and retained at the site of the generator claiming the exclusion.

(i) At a minimum, the plan must specify:

(A) The parameters for which each excluded fuel will be analyzed and the rationale for the selection of those parameters;

(B) The test methods which will be used to test for these parameters;

(C) The sampling method which will be used to obtain a representative sample of the excluded fuel to be analyzed;

(D) The frequency with which the initial analysis of the excluded fuel will be reviewed or repeated to ensure that the analysis is accurate and up to date; and

(E) If process knowledge is used in the determination, any information prepared by the generator in making such determination.

(ii) For each analysis the generator shall document the following:

(A) The dates and times that samples were obtained, and the dates the samples were analyzed;

(B) The names and qualifications of the person(s) who obtained the samples;

(C) A description of the temporal and spatial locations of the samples;

(D) The name and address of the laboratory facility at which analyses of the samples were performed;

(E) A description of the analytical methods used, including any clean-up and sample preparation methods;

(F) All quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, *etc.*), laboratory quality assurance data, and the description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

(G) All laboratory results demonstrating whether the exclusion specifications have been met; and

(H) All laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the

documentation to be maintained by the laboratory for the period specified in paragraph (b)(9) of this section and also provides for the availability of the documentation to the claimant upon request.

(iii) Syngas fuel generators shall submit for approval, prior to performing sampling, analysis, or any management of an excluded syngas fuel, a fuel analysis plan containing the elements of paragraph (b)(4)(i) of this section to the appropriate regulatory authority. The approval of fuel analysis plans must be stated in writing and received by the facility prior to sampling and analysis to demonstrate the exclusion of a syngas. The approval of the fuel analysis plan may contain such provisions and conditions as the regulatory authority deems appropriate.

(5) *Excluded Fuel sampling and analysis.*

(i) *General*. For wastes for which an exclusion is claimed undet the specifications provided by paragraphs (a)(1) or (a)(2) of this section, the generator of the waste must test for all the constituents in appendix VIII to this part, except those that the generator determines, based on thesting or knowledge, should not be present in the fuel. The generator is required to document the basis of each determination that a constituent with an applicable specification should not be present. The generator may not determine that any of the following categories of constituents with a specification in Table 1 to this section should not be present:

(A) A constituent that triggered the toxicity characteristic for the constituents that were the basis for listing the hazardous secondary material as a hazardous waste, or constituents for which there is a treatment standard for the waste code in 268.40;

(B) A constituent detected in previous analysis of the waste;

(C) Constituents introduced into the process that generates the waste; or

(D) Constituents that are byproducts or side reactions to the process that generates the waste. Note to paragraph (b)(5): Any claim under this section must be valid and accurate for all hazardous constituents; a determination not to test for a hazardous constituent will not shield a generator from liability should that constituent later be found in the excluded fuel above the exclusion specifications.

(ii) *Use of process knowledge.* For each waste for which the comparable fuel or syngas exclusion is claimed where the generator of the excluded fuel is not the original generator of the hazardous waste, the generator of the excluded fuel may not use process knowledge pursuant to paragraph (b)(5)(i) of this section and must test to determine that all of the constituent specifications of paragraphs (a)(1) and (a)(2) of this section, as applicable, have been met.

(iii) The excluded fuel generator may use any reliable analytical method to demonstrate that no constituent of concern is present at concentrations above the specification levels. It is the responsibility of the generator to ensure that the sampling and analysis are unbiased, precise, and representative of the excluded fuel. For the fuel to be eligible for exclusion, a generator must demonstrate that:

(A) The 95% upper confidence limit of the mean concentration for each constituent of concern is not above the specification level; and

(B) The analyses could have detected the presence of the constituent at or below the specification level.

(iv) Nothing in this paragraph preempts, overrides or otherwise negates the provision 262.11 of this chapter, which requires any person who generates a solid waste to determine if that waste is a hazardous waste.

(v) In an enforcement action, the burden of proof to establish conformance with the exclusion specification shall be on the generator claiming the exclusion.

(vi)The generator must conduct sampling and analysis in accordance with the fuel analysis plan developed under paragraph (b)(4) of this section.

(vii) *Viscosity condition for comparable fuel.*

(A) Excluded comparable fuel that has not been blended in order to meet the kinematic viscosity specifications shall be analyzed as generated.

(B) If hazardous waste is blended to meet the kinematic viscosity specifications for comparable fuel, the generator shall:

(1) Analyze the hazardous waste as generated to ensure that it meets the constituent and heating value specifications of paragraph (a)(1) of this section; and

(2) After blending, analyze the fuel again to ensure that the blended fuel

(viii) Excluded fuel must be re-tested, at a minimum, annually and must be retested after a process change that could change its chemical or physical properties in a manner that may affect conformance with the specifications.

(6) [Reserved]

(7) *Speculative accumulation.* The generator must maintain an operating record on site containing the following information:

(i) All information required to be submitted to the implementing authority as part of the notification of the claim:

(A) The owner/operator name, address, and RCRA ID number of the person claiming the exclusion;

(B) For each excluded fuel, the EPA Hazardous Waste Codes that would be applicable if the material were discarded; and

(C) The certification signed by the person claiming the exclusion or his authorized representative.

(ii) A brief description of the process that generated the excluded fuel. If the comparable fuel generator is not the generator of the original hazardous waste, provide a brief description of the process that generated the hazardous waste;

(iii) The monthly and annual quantities of each fuel claimed to be excluded;

(iv) Documentation for any claim that a constituent is not present in the hazardous waste as required under 261.38(c)(8)(i);

(v) the results of all analyses and all detection limits achieved as required under 261.38(c)(8);

(vi) if the excluded waste was generated through treatment or blending, documentation as required under section 261.38(c)(3) or (4);

(vii) if the waste is to be shipped off-site, a certification from the burner as required under section 261.38(c)(12);

(viii) A waste analysis plan and the results of the sampling and analysis that includes the following:

(A) the dates and times waste samples were obtained, and the dates the samples were analyzed;

(B) the names and qualifications of the person(s) who obtained the samples;

(C) a description of the temporal and spatial locations of the samples;

(D) the name and address of the laboratory facility at which analyses of the samples were performed;

(E) a description of the analytical methods used, including any clean-up and sample preparation methods;

(F) all quantitation limits achieved and all other quality control results for the analysis (including method blanks, duplicate analyses, matrix spikes, etc.), laboratory quality assurance data, and description of any deviations from analytical methods written in the plan or from any other activity written in the plan which occurred;

(G) all laboratory analytical results demonstrating that the exclusion specifications have been met for the waste; and

(H) all laboratory documentation that support the analytical results, unless a contract between the claimant and the laboratory provides for the documentation to be maintained by the laboratory for the period specified in 261.38(c)(11) and also provides for the availability of the documentation to the claimant upon request; and

(ix) If the generator ships comparable/syngas fuel off-site for burning, the generator must retain for each shipment the following information on-site:

(A) the name and address of the facility receiving the comparable/syngas fuel for burning;

(B) the quantity of comparable/syngas fuel shipped and delivered;

(C) the date of shipment or delivery;

(D) a cross-reference to the record of comparable/syngas fuel analysis or other information used to make the determination that the comparable/syngas fuel meets the specifications as required under 261.38(c)(8); and

(E) a one-time certification by the burner as required under 261.38(c)(12).

(11) Records Retention. Records must be maintained for the period of three years. A generator must maintain a current waste analysis plan during that three year period.

(12) Burner certification. Prior to submitting a notification to the State and Regional Directors, a comparable/syngas fuel generator who intends to ship their fuel off-site for burning must obtain a one-time written, signed statement from the burner:

(i) certifying that the comparable/syngas fuel will only be burned in an industrial furnace or boiler, utility boiler, or hazardous waste incinerator, as required under paragraph (c)(2);

(ii) identifying the name and address of the units that will burn the comparable/syngas fuel; and

(iii) certifying that the state in which the burner is located is authorized to exclude wastes as comparable/syngas fuel under the provisions of 261.38.

(13) Ineligible Waste Codes. Wastes that are listed because of presence of dioxins or furans, as set out in Appendix VII of Part 261, are not eligible for this exclusion, and any fuel produced from or otherwise containing these wastes remains a hazardous waste subject to full Subtitle C regulation

261.39 Conditional Exclusion for Used, Broken Cathode Ray Tubes (CRTs) and Processed CRT Glass Undergoing Recycling.

261.39 Used, broken CRTs are not solid wastes if they meet the following conditions:

(a) Prior to processing: These materials are not solid wastes if they are destined for recycling and if they meet the following requirements:

(1) Storage. The broken CRTs must be either:

(i) Stored in a building with a roof, floor, and walls, or

(ii) Placed in a container (i.e., a package or a vehicle) that is constructed, filled, and closed to minimize releases to the environment of CRT glass (including fine solid materials).

(2) Labeling. Each container in which the used, broken CRT is contained must be labeled or marked clearly with one of the following phrases: “Used Cathode Ray Tube(s)-contains leaded glass” or “Leaded glass from televisions or computers.” It must also be labeled: ``Do not mix with other glass materials."

(3) Transportation. The used, broken CRTs must be transported in a container meeting the requirements of paragraphs (a)(1)(ii) and (2) of this section.

(4) Speculative accumulation and use constituting disposal. The used, broken CRTs are subject to the limitations on speculative accumulation as defined in paragraph (c)(8) of this section. If they are used in a manner constituting disposal, they must comply with the applicable requirements of part 266, subpart C instead of the requirements of this section.

(5) Exports. In addition to the applicable conditions specified in paragraphs (a)(1)-(4) of this section, exporters of used, broken CRTs must comply with the following requirements:

(i) Notify EPA of an intended export before the CRTs are scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped off-site. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the exporter, and include the following information:

(A) Name, mailing address, telephone number and EPA ID number (if applicable) of the exporter of the CRTs.

(B) The estimated frequency or rate at which the CRTs are to be exported and the period of time over which they are to be exported.

(C) The estimated total quantity of CRTs specified in kilograms.

(D) All points of entry to and departure from each foreign country through which the CRTs will pass.

(E) A description of the means by which each shipment of the CRTs will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container (drums, boxes, tanks, etc.)).

(F) The name and address of the recycler and any alternate recycler.

(G) A description of the manner in which the CRTs will be recycled in the foreign country that will be receiving the CRTs.

(H) The name of any transit country through which the CRTs will be sent and a description of the approximate length of time the CRTs will remain in such country and the nature of their handling while there.

(ii) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Hand-delivered notifications should be sent to: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division, (Mail Code 2254A), Environmental Protection Agency, Ariel Rios Bldg., Room 6144, 1200 Pennsylvania Ave., NW., Washington, DC. In both cases, the following shall be prominently displayed on the front of the envelope: ``Attention: Notification of Intent to Export CRTs."

(iii) Upon request by EPA, the exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(iv) EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of paragraph (a)(5)(i) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by paragraph (a)(5)(i) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(v) The export of CRTs is prohibited unless the receiving country consents to the intended export. When the receiving country consents in writing to the receipt of the CRTs, EPA will forward an Acknowledgment of Consent to Export CRTs to the exporter. Where the receiving country objects to receipt of the CRTs or withdraws a prior consent, EPA will notify the exporter in writing. EPA will also notify the exporter of any responses from transit countries.

(vi) When the conditions specified on the original notification change, the exporter must provide EPA with a written renotification of the change, except for changes to the telephone number in paragraph (a)(5)(i)(A) of this section and decreases in the quantity indicated pursuant to paragraph (a)(5)(i)(C) of this section. The shipment cannot take place until consent of the receiving country to the changes has been obtained (except for changes to information about points of entry and departure and transit countries pursuant to paragraphs (a)(5)(i)(D) and (a)(5)(i)(H) of this section) and the exporter of CRTs receives from EPA a copy of the Acknowledgment of Consent to Export CRTs reflecting the receiving country's consent to the changes.

(vii) A copy of the Acknowledgment of Consent to Export CRTs must accompany the shipment of CRTs. The shipment must conform to the terms of the Acknowledgment.

(viii) If a shipment of CRTs cannot be delivered for any reason to the recycler or the alternate recycler, the exporter of CRTs must renotify EPA of a change in the conditions of the original notification to allow shipment to a new recycler in accordance with paragraph (a)(5)(vi) of this section and obtain another Acknowledgment of Consent to Export CRTs.

(ix) Exporters must keep copies of notifications and Acknowledgments of Consent to Export CRTs for a period of three years following receipt of the Acknowledgment.

(b) Requirements for used CRT processing: Used, broken CRTs undergoing CRT processing as defined in Sec. 260.10 of this chapter are not solid wastes if they meet the following requirements:

(1) Storage. Used, broken CRTs undergoing processing are subject to the requirement of paragraph (a)(4) of this section.

(2) Processing.

(i) All activities specified in paragraphs (2) and (3) of the definition of ``CRT processing'' in Sec. 260.10 of this chapter must be performed within a building with a roof, floor, and walls; and

(ii) No activities may be performed that use temperatures high enough to volatilize lead from CRTs.

(c) Processed CRT glass sent to CRT glass making or lead smelting: Glass from used CRTs that is destined for recycling at a CRT glass manufacturer or a lead smelter after processing is not a solid waste unless it is speculatively accumulated as defined in Sec. 261.1(c)(8).

(d) Use constituting disposal: Glass from used CRTs that is used in a manner constituting disposal must comply with the requirements of 40 CFR part 266, subpart C instead of the requirements of this section. (6/09)

261.40 Conditional Exclusion for Used, Intact Cathode Ray Tubes (CRTs) Exported for Recycling

Used, intact CRTs exported for recycling are not solid wastes if they meet the notice and consent conditions of Sec. 261.39(a)(5), and if they are not speculatively accumulated as defined in Sec. 261.1(c)(8). (6/09)

261.41 Notification and Recordkeeping for Used, Intact Cathode Ray Tubes (CRTs) Exported for Reuse.

(a) Persons who export used, intact CRTs for reuse must send a one-time notification to the Regional Administrator. The notification must include a statement that the notifier plans to export used, intact CRTs for reuse, the notifier's name, address, and EPA ID number (if applicable) and the name and phone number of a contact person.

(b) Persons who export used, intact CRTs for reuse must keep copies of normal business records, such as contracts, demonstrating that each shipment of exported CRTs will be reused. This documentation must be retained for a period of at least three years from the date the CRTs were exported. (6/09)

Appendix I Representative Sampling Methods

(12/92; 12/93)

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid - ASTM Standard D140-70
Crushed or powdered material - ASTM Standard D346-75 Soil or rock-like material - ASTM Standard D420-69
Soil-like material - ASTM Standard D1452-65.
Fly Ash-like material - ASTM Standard D2234-76
[ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103]
Containerized liquid wastes - "COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,"[1a] U.S. Environmental Protection Agency Publication SW-846,
Liquid waste in pits, ponds, lagoons, and similar reservoirs. - "Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."[1a]

FOOTNOTE: [1a] These methods are also described in Samplers and Sampling Procedures for Hazardous Waste Streams, EPA 600/2-80-018, January 1980.

The Department will consider other methodologies for testing from other sources (such as) i.e., Standard Methods, other Federal Regulations, as long as the proper QA/QC is provided. This manual also contains additional information on application of these protocols.

Appendix II Method 1311 Toxicity Characteristic Leaching Procedure (TCLP)

NOTE: The TCLP (Method 1311) is published in "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. (12/92; 12/93)

Appendix III Chemical Analysis Test Methods

Note: Appropriate analytical procedures to determine whether a sample contains a given toxic constituent are specified in Chapter Two, "Choosing the Correct Procedure" found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. Prior to final sampling and analysis method selection, the individual should consult the specific section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation. (11/90, 12/92, 12/93)

Appendix IV [Reserved for Radioactive Waste Test Methods]

Appendix V [Reserved for Infectious Waste Treatment Specifications]

Appendix VI [Reserved for Etiologic Agents]

Appendix VII Basis for Listing Hazardous Waste

Appendix VII Basis for Listing Hazardous Waste	
Hazardous Waste #	Basis for Listing Hazardous Waste Hazardous constituents for which listed (11/90, 12/92, 5/96, 9/98, 2/07)
F001	Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-p-dioxins; tetra and pentachlorodi-benzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F021	Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra-, and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
F025	Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene.
F026	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F032	Benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)-anthracene,indeno(1,2,3-cd)pyrene, pentachlorophenol, arsenic, chromium, tetra-, penta-, hexa-, heptachlorodibenzo-p-dioxins, tetra-, penta-, hexa-, heptachlorodibenzofurans (12/92)
F034	Benz(a)anthracene, benzo(k)fluoranthene, benzo(a)pyrene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, arsenic, chromium (12/92).
F035	Arsenic, chromium, lead (12/92).
F037	Benzene, benzo(a)pyrene, chrysene, lead, chromium (12/92).
F038	Benzene, benzo(a)pyrene, chrysene, lead, chromium (12/92).
F039	All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 268.43, Table CCW (12/92).
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.

Appendix VII Basis for Listing Hazardous Waste	
Hazardous Waste #	Basis for Listing Hazardous Waste Hazardous constituents for which listed (11/90, 12/92, 5/96, 9/98, 2/07)
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.

Appendix VII Basis for Listing Hazardous Waste	
Hazardous Waste #	Basis for Listing Hazardous Waste Hazardous constituents for which listed (11/90, 12/92, 5/96, 9/98, 2/07)
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K107	1,1-Dimethylhydrazine (UDMH) (12/92).
K108	1,1-Dimethylhydrazine (UDMH) (12/92).
K109	1,1-Dimethylhydrazine (UDMH (12/92).
K110	1,1-Dimethylhydrazine (UDMH (12/92).
K111	2,4-Dinitrotoluene.
K112	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K113	2,4-Toluenediamine, o-toluidine, p-toluidine, aniline.
K114	2,4-Toluenediamine, o-toluidine, p-toluidine.
K115	2,4-Toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K131	Dimethyl sulfate, methyl bromide.
K132	Methyl bromide.
K136	Ethylene dibromide.
K140	2,4,6-Tribromophenol. (11/99)
K141	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93)
K142	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene.(12/93)
K143	Benzene, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene. (12/93)
K144	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene. (12/93)
K145	Benzene, benz(a)anthracene, benzo(a)pyrene, dibenz(a,h)anthracene, naphthalene. (12/93)
K147	Benzene, benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93)
K148	Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene. (12/93)
K149	Benzotrichloride, benzyl chloride, chloroform, chloromethane, chlorobenzene, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, toluene. (12/93)
K150	Carbon tetrachloride, chloroform, chloromethane, 1,4-dichlorobenzene, hexachlorobenzene, pentachlorobenzene, 1,2,4,5-tetrachlorobenzene, 1,1,2,2-tetrachloroethane, tetrachloroethylene, 1,2,4-trichlorobenzene. (12/93)
K151	Benzene, carbon tetrachloride, chloroform, hexachlorobenzene, pentachlorobenzene, toluene, 1,2,4,5-tetrachlorobenzene, tetrachloroethylene. (12/93)
K156	Benomyl, carbaryl, carbendazim, carbofuran, carbosulfan, formaldehyde, methylene chloride, triethylamine. (5/96)
K157	Carbon tetrachloride, formaldehyde, methyl chloride, methylene chloride, pyridine, triethylamine. (5/96)
K158	Benomyl, carbendazim, carbofuran, carbosulfan, chloroform, methylene chloride. (5/96)
K159	Benzene, butylate, eptc, molinate, pebulate, vernolate. (5/96)
K160	Benzene, butylate, eptc, molinate, pebulate, vernolate. (5/96)
K161	Antimony, arsenic, metam-sodium, ziram. (5/96)
K169	Benzene. (8/00)
K170	Benzo(a)pyrene, dibenz(a,h)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, 3-methylcholanthrene, 7,12-dimethylbenz(a)anthracene. (8/00)
K171	Benzene, arsenic. (8/00)
K172	Benzene, arsenic. (8/00)
K174	1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD), 1,2,3,4,6,7,8- Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF), 1,2,3,4,7,8,9- Heptachlorodibenzofuran (1,2,3,6,7,8,9-HpCDF), HxCDDs (All Hexachlorodibenzo-p- dioxins), HxCDFs (All Hexachlorodibenzofurans), PeCDDs (All Pentachlorodibenzo-p-dioxins), OCDD (1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin, OCDF (1,2,3,4,6,7,8,9- Octachlorodibenzofuran), PeCDFs (All Pentachlorodibenzofurans), TCDDs (All tetrachlorodi-benzo- p-dioxins), TCDFs (All tetrachlorodibenzofurans). (6/02.)
K175	Mercury (6/02)
K176	Arsenic, Lead (6/03)
K177	Antimony (6/03)
K178	Thallium (6/03)
K181	Aniline, o-anisidine, 4-chloroaniline, p-cresidine, 2,4-dimethylaniline, 1,2-phenylenediamine, 1,3-phenylenediamine. (2/07)
K900	Tributyltin, Tributyltin Oxide, Tributyltin Chloride, Tributyltin Hydroxide, Tributyltin Bromide, Tributyltin Acetate, Tributyltin Fluoride, Triethyltin, Triethyltin Chloride (6/02)

N.A.= Waste is hazardous because it fails the test for the characteristics of ignitability, corrosivity, or reactivity.

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
A2213 (5/96)	Ethanimidothioic acid, 2- (dimethylamino) -N-hydroxy-2-oxo-, methyl ester	30558-43-1
Acetonitrile	Same	75-05-8
Acetophenone	Ethanone, 1-phenyl-	98-86-2
2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53-96-3
Acetyl chloride	Same	75-36-5
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-2
Acrolein	2-Propenal	107-02-8
Acrylamide	2-Propenamide	79-06-1
Acrylonitrile	2-Propenenitrile	107-13-1
Aflatoxins	Same	1402-68-2
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime	116-06-3
Aldicarb sulfone (5/96)	Propanal, 2-methyl-2-(methylsulfonyl), O-[(methylamino) carbonyl] oxime	1646-88-4
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha, 8abeta)-	309-00-2
Allyl alcohol	2-Propen-1-ol	107-18-6
Allyl chloride	1-Propane, 3-chloro	107-05-1
Aluminum phosphide	Same	20859-73-8
4-Aminobiphenyl	[1,1'-Biphenyl]-4-amine	92-67-1
5-(Aminomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-	2763-96-4
4-Aminopyridine	4-Pyridinamine	504-24-5
Amitrole	1H-1,2,4-Triazol-3-amine	61-82-5
Ammonium vanadate	Vanadic acid, ammonium salt	7803-55-6
Aniline	Benzenamine	62-53-3
o-Anisidine (2-methoxyaniline)	Benzenamine, 2-Methoxy-	90-04-0
Antimony	Same	7440-36-0
Antimony compounds, N.O.S.[1]		
Aramite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8
Arsenic	Same	7440-38-2
Arsenic compounds, N.O.S.[1]		
Arsenic acid	Arsenic acid H_3AsO_4	7778-39-4
Arsenic pentoxide	Arsenic oxide As_2O_5	1303-28-2
Arsenic trioxide	Arsenic oxide As_2O_3	1327-53-3
Auramine	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl	492-80-8
Azaserine	L-Serine, diazoacetate (ester)	115-02-6
Barban (5/96)	Carbamic acid, (3-chlorophenyl) -, 4-chloro-2-butynyl ester	101-27-9
Barium	Same	7440-39-3
Barium compounds, N.O.S.[1]		
Barium cyanide	Same	542-62-1
Bendiocarb (5/96)	1,3-Benzodioxol-4-ol, 2,2-dimethyl-, methyl carbamate	22781-23-3
Bendiocarb phenol (5/96)	1,3-Benzodioxol-4-ol, 2,2-dimethyl-,	22961-82-6
Benomyl (5/96)	Carbamic acid, [1- [(butylamino) carbonyl]- 1H-benzimidazol-2-yl] -, methyl ester	17804-35-2
Benz[c]acridine	Same	225-51-4
Benz[a]anthracene	Same	56-55-3
Benzal chloride	Benzene, (dichloromethyl)-	98-87-3
Benzene	Same	71-43-2
Benzenearsonic acid	Arsonic acid, phenyl-	98-05-5
Benzidine	[1,1'-Biphenyl]-4,4'-diamine	92-87-5
Benzo[b]fluoranthene	Benz[e]acephenanthrylene	205-99-2
Benzo[j]fluoranthene	Same	205-82-3
Benzo(k)fluoranthene (5/96)	Same	207-08-9
Benzo[a]pyrene	Same	50-32-8
p-Benzoquinone	2,5-Cyclohexadiene-1,4-dione	106-51-4
Benzotrichloride	Benzene, (trichloromethyl)-	98-07-7
Benzyl chloride	Benzene, (chloromethyl)-	100-44-7
Beryllium powder	Same	7440-41-7
Beryllium compounds, N.O.S.[1]		
Bis (pentamethylene)-thiuram tetrasulfide.	Piperidine, 1,1'-(tetrathiodicarbonothioyl)-bis-	120-54-7
Bromoacetone	2-Propanone, 1-bromo-	598-31-2
Bromoform	Methane, tribromo-	75-25-2

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101-55-3
Brucine	Strychnidin-10-one, 2,3-dimethoxy-	357-57-3
Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	85-68-7
Butylate (5/96)	Carbamothioic acid, bis (2-methylpropyl)-, S-ethyl ester	2008-41-5
Cacodylic acid	Arsinic acid, dimethyl-	75-60-5
Cadmium	Same	7440-43-9
Cadmium compounds, N.O.S.[1]		
Calcium chromate	Chromic acid H_2CrO_4, calcium salt	13765-19-0
Calcium cyanide	Calcium cyanide $Ca(CN)_2$	592-01-8
Carbaryl (5/96)	1-Naphthalenol, methylcarbamate	63-25-2
Carbendazim (5/96)	Carbamic acid, 1H-benzimidazol-2-yl, methyl ester	10605-21-7
Carbofuran (5/96)	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-, methylcarbamate	1563-66-2
Carbofuran phenol (9/96)	7-Benzofuranol, 2,3-dihydro-2,2-dimethyl-	1563-38-8
Carbon disulfide	Same	75-15-0
Carbon oxyfluoride	Carbonic difluoride	353-50-4
Carbon tetrachloride	Methane, tetrachloro-	56-23-5
Carbosulfan (6/96)	Carbamic acid, [(dibutylamino) thio] methyl-, 2,3-dihydro-2,2-dimethyl-7-benzofuranyl ester	55285-14-8
Chloral	Acetaldehyde, trichloro-	75-87-6
Chlorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	305-03-3
Chlordane	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9
Chlordane (alpha and gamma isomers)		
Chlorinated benzenes, N.O.S.[1]		
Chlorinated ethane, N.O.S.[1]		
Chlorinated fluorocarbons, N.O.S.[1]		
Chlorinated naphthalene, N.O.S.[1]		
Chlorinated phenol, N.O.S.[1]		
Chlornaphazin	Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1
Chloroacetaldehyde	Acetaldehyde, chloro-	107-20-0
Chloroalkyl ethers, N.O.S.[1]		
p-Chloroaniline	Benzenamine, 4-chloro-	106-47-8
Chlorobenzene	Benzene, chloro-	108-90-7
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester	510-15-6
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59-50-7
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110-75-8
Chloroform	Methane, trichloro-	67-66-3
Chloromethyl methyl ether	Methane, chloromethoxy-	107-30-2
beta-Chloronaphthalene	Naphthalene, 2-chloro-	91-58-7
o-Chlorophenol	Phenol, 2-chloro-	95-57-8
1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1
Chloroprene	1,3-Butadiene, 2-chloro-	126-99-8
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542-76-7
Chromium	Same	7440-47-3
Chromium compounds, N.O.S.[1]		
Chrysene	Same	218-01-9
Citrus red No. 2	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-	6358-53-8
Coal tar creosote	Same	8007-45-2
Copper cyanide	Copper cyanide CuCN	544-92-3
Copper dimethyldithiocarbamate	Copper, bis(dimethylcarbamodithioato-S,S')-, (6/96)	137-29-1
Creosote	Same	
p-Cresidine	2-Methoxy-5-methylbenzenamine	120-71-8
Cresol (Cresylic acid)	Phenol, methyl-	1319-77-3
Crotonaldehyde	2-Butenal	4170-30-3
m-Cumenyl methylcarbamate	Phenol, 3-(methylethyl)-, methyl carbamate (5/96)	64-00-6
Cyanides (soluble salts and complexes) N.O.S.[1]		
Cyanogen	Ethanedinitrile	460-19-5
Cyanogen bromide	Cyanogen bromide (CN)Br	506-68-3
Cyanogen chloride	Cyanogen chloride (CN)Cl	506-77-4
Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl	14901-08-7
Cycloate	Carbamothioic acid, cyclohexylethyl-, S-ethyl ester	1134-23-2

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5
Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94-75-7
2,4-D, salts, esters		
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	20830-81-3
Dazomet (5/96)	2H-1,3,5-thiadiazine-2-thione,tetrahydro-3,5-dimethyl	533-74-4
DDD	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	72-54-8
DDE	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-	72-55-9
DDT	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	50-29-3
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2303-16-4
Dibenz[a,h]acridine	Same	226-36-8
Dibenz[a,j]acridine	Same	224-42-0
Dibenz[a,h]anthracene	Same	53-70-3
7H-Dibenzo[c,g]carbazole	Same	194-59-2
Dibenzo[a,e]pyrene	Naphtho[1,2,3,4-def]chrysene	192-65-4
Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene	189-64-0
Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189-55-9
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro-	96-12-8
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95-50-1
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541-73-1
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106-46-7
Dichlorobenzene, N.O.S.[1]	Benzene, dichloro-	25321-22-6
3,3'-Dichlorobenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	91-94-1
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764-41-0
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75-71-8
Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323-30-2
1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75-35-4
1,2-Dichloroethylene	Ethene, 1,2-dichloro-, (E)-	156-60-5
Dichloroethyl ether	Ethane, 1,1'oxybis[2-chloro-	111-44-4
Dichloroisopropyl ether	Propane, 2,2'-oxybis[2-chloro-	108-60-1
Dichloromethoxy ethane	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	111-91-1
Dichloromethyl ether	Methane, oxybis[chloro-	542-88-1
2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120-83-2
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87-65-0
Dichlorophenylarsine	Arsonous dichloride, phenyl-	696-28-6
Dichloropropane, N.O.S.[1]	Propane, dichloro-	26638-19-7
Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545-73-3
Dichloropropene, N.O.S.[1]	1-Propene, dichloro-	26952-23-8
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542-75-6
Dieldrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta, 6aalpha,7beta,7aalpha)-	60-57-1
1,2:3,4-Diepoxybutane	2,2'-Bioxirane	1464-53-5
Diethylarsine	Arsine, diethyl-	692-42-2
Diethylene glycol, dicarbamate (5/96)	Ethanol, 2,2'-oxybis-, dicarbamate	5952-26-1
1,4-Diethyleneoxide	1,4-Dioxane	123-91-1
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	117-81-7
N,N'-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615-80-1
O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2
Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2
O,O-Diethyl O-pyrazinyl phosphoro- thioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2
Diethylstilbesterol	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-	56-53-1
Dihydrosafrole	1,3-Benzodioxole, 5-propyl-	94-58-6
Diisopropylfluorophosphate (DFP)	Phosphorofluoridic acid, bis(1-methylethyl) ester	55-91-4
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	60-51-5
3,3'-Dimethoxybenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	119-90-4
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
2,4-Dimethylaniline (2,4-xylidine)	Benzenamine, 2,4-dimethyl-	95-68-1
7,12-Dimethylbenz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl-	57-97-6
3,3'-Dimethylbenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	119-93-7
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79-44-7
1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57-14-7
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	540-73-8
alpha,alpha-Dimethylphenethylamine	Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-9
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77-78-1
Dimetilan (5/96)	Carbamic acid, dimethyl-, 1-[(dimethylamino) carbonyl]-5-methyl-1H-pyrazol-3-yl ester	644-64-4
Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154-54-5
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1
4,6-Dinitro-o-cresol salts		
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51-28-5
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121-14-2
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606-20-2
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7
Di-n-octyl phthalate	1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0
Diphenylamine	Benzenamine, N-phenyl-	122-39-4
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122-66-7
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7
Disulfiram (5/96)	Thioperoxydicarbonic diamide, tetraethyl	97-77-8
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	298-04-4
Dithiobiuret	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	541-53-7
Endosulfan	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a- hexahydro-, 3-oxide	115-29-7
Endothall	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid	145-73-3
Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta,2abeta,3alpha,6alpha, 6abeta,7beta,7aalpha)-	72-20-8
Endrin metabolites		
Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8
Epinephrine	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	51-43-4
EPTC	Carbamothioic acid, dipropyl-, S-ethyl ester	759-94-4
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51-79-6
Ethyl cyanide	Propanenitrile	107-12-0
Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediylbis-	111-54-6
Ethylenebisdithiocarbamic acid, salts and esters		
Ethylene dibromide	Ethane, 1,2-dibromo-	106-93-4
Ethylene dichloride	Ethane, 1,2-dichloro-	107-06-2
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5
Ethyleneimine	Aziridine	151-56-4
Ethylene oxide	Oxirane	75-21-8
Ethylenethiourea	2-Imidazolidinethione	96-45-7
Ethylidene dichloride	Ethane, 1,1-dichloro-	75-34-3
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2
Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62-50-0
Ethyl Ziram (5/96)	Zinc, bis(diethylcarbamodithioato-S,S')-	14324-55-1
Famphur	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester	52-85-7
Ferbam (5/96)	Iron, tris(dimethylcarbamodithioat-S,S')-,	14484-64-1
Fluoranthene	Same	206-44-0
Fluorine	Same	7782-41-4
Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62-74-8
Formaldehyde	Same	50-00-0
Formetanate hydrochloride	Methanimidamide, N,N-dimethyl-N'-[3-[[(methylamino) carbonyl]oxy]phenyl]-, monohydrochloride (5/96)	23422-53-9
Formic acid	Same	64-18-6
Formparanate (5/96)	Methanimidamide, N,N-dimethyl-N'-[2-methyl-4-[[(methylamino) carbonyl]oxy]phenyl]-.	17702-57-7
Glycidylaldehyde	Oxiranecarboxyaldehyde	765-34-4
Halomethanes, N.O.S.[1]		

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Common name	Chemical abstracts name (9/98)	CAS #
Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8
Heptachlor epoxide	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa-hydro-, (1aalpha,1bbeta,2alpha,5alpha, 5abeta,6beta,6aalpha)-	1024-57-3
Heptachlor epoxide (alpha, beta, and gamma isomers)		
Heptachlorodibenzofurans	(5/96)	
Heptachlorodibenzo-p-dioxins	(5/96)	
Hexachlorobenzene	Benzene, hexachloro-	118-74-1
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4
Hexachlorodibenzo-p-dioxins		
Hexachlorodibenzofurans		
Hexachloroethane	Ethane, hexachloro-	67-72-1
Hexachlorophene	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	70-30-4
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757-58-4
Hydrazine	Same	302-01-2
Hydrogen cyanide	Hydrocyanic acid	74-90-8
Hydrogen fluoride	Hydrofluoric acid	7664-39-3
Hydrogen sulfide	Hydrogen sulfide H_2S	7783-06-4
Indeno[1,2,3-cd]pyrene	Same	193-39-5
3-Iodo-2-propynyl n-butylcarbamate (5/96)	Carbamic acid, butyl-, 3-iodo-2-propynyl ester	55406-53-6
Isobutyl alcohol	1-Propanol, 2-methyl-	78-83-1
Isodrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,-8abeta) -	465-73-6
Isolan (5/96)	Carbamic acid, dimethyl-, 3-methyl-1-(1-methylethyl)-1H-pyrazol-5-yl ester	119-38-0
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1
Kepone	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	143-50-0
Lasiocarpine	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1 -oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	303-34-4
Lead	Same	7439-92-1
Lead compounds, N.O.S.[1]		
Lead acetate	Acetic acid, lead(2+) salt	301-04-2
Lead phosphate	Phosphoric acid, lead(2+) salt (2:3)	7446-27-7
Lead subacetate	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-	58-89-9
Maleic anhydride	2,5-Furandione	108-31-6
Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-	123-33-1
Malononitrile	Propanedinitrile	109-77-3
Manganese dimethyldithiocarbamate (5/96)	Manganese, bis(dimethylcarbamodithioato-S,S')-,	15339-36-3
Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl)aminol]-	148-82-3
Mercury	Same	7439-97-6
Mercury compounds, N.O.S.[1]		
Mercury fulminate	Fulminic acid, mercury(2+) salt	628-86-4
Metam Sodium (5/96)	Carbamodithioic acid, methyl-, monosodium salt	137-42-8
Methacrylonitrile	2-Propenenitrile, 2-methyl-	126-98-7
Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	91-80-5
Methiocarb (5/96)	Phenol, (3,5-dimethyl-4-(methylthio)-, methylcarbamate	2032-65-7
Methomyl	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	16752-77-5
Methoxychlor	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-	72-43-5
Methyl bromide	Methane, bromo-	74-83-9
Methyl chloride	Methane, chloro-	74-87-3
Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1
Methyl chloroform	Ethane, 1,1,1-trichloro-	71-55-6
3-Methylcholanthrene	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5
4,4'-Methylenebis (2-chloroaniline)	Benzenamine, 4,4'-methylenebis[2-chloro-	101-14-4
Methylene bromide	Methane, dibromo-	74-95-3
Methylene chloride	Methane, dichloro-	75-09-2
Methyl ethyl ketone (MEK)	2-Butanone	78-93-3
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338-23-4

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Common name	Chemical abstracts name (9/98)	CAS #
Methyl hydrazine	Hydrazine, methyl-	60-34-4
Methyl iodide	Methane, iodo-	74-88-4
Methyl isocyanate	Methane, isocyanato-	624-83-9
2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80-62-6
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66-27-3
Methyl parathion	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	298-00-0
Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-	56-04-2
Metolcarb (5/96)	Carbamic acid, methyl-, 3-methylphenyl ester	1129-41-5
Mexacarbate (5/96)	Phenol, 4-(dimethylamino)-3,5-dimethyl-, methylcarbamate (ester)	315-18-4
Mitomycin C	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5- methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-.	50-07-7
MNNG	Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7
Molinate (5/96)	1H-Azepine-1-carbothioic acid, hexahydro-, S-ethyl ester	2212-67-1
Mustard gas	Ethane, 1,1'-thiobis[2-chloro-	505-60-2
Naphthalene	Same	91-20-3
1,4-Naphthoquinone	1,4-Naphthalenedione	130-15-4
alpha-Naphthylamine	1-Naphthalenamine	134-32-7
beta-Naphthylamine	2-Naphthalenamine	91-59-8
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86-88-4
Nickel	Same	7440-02-0
Nickel compounds, N.O.S.[1]		
Nickel carbonyl	Nickel carbonyl $Ni(CO)_4$, (T-4)-	13463-39-3
Nickel cyanide	Nickel cyanide $Ni(CN)_2$	557-19-7
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54-11-5
Nicotine salts		
Nitric oxide	Nitrogen oxide NO	10102-43-9
p-Nitroaniline	Benzenamine, 4-nitro-	100-01-6
Nitrobenzene	Benzene, nitro-	98-95-3
Nitrogen dioxide	Nitrogen oxide NO_2	10102-44-0
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-	51-75-2
Nitrogen mustard, hydro-chloride salt		
Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide	126-85-2
Nitrogen mustard, N-oxide, hydrochloride salt		
Nitroglycerin	1,2,3-Propanetriol, trinitrate	55-63-0
p-Nitrophenol	Phenol, 4-nitro-	100-02-7
2-Nitropropane	Propane, 2-nitro-	79-46-9
Nitrosamines, N.O.S.[1]		35576-91-1
N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3
N-Nitrosodiethanolamine	Ethanol, 2,2'-(nitrosoimino)bis-	1116-54-7
N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55-18-5
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62-75-9
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	759-73-9
N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-	10595-95-6
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684-93-5
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-53-2
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0
N-Nitrosomorpholine	Morpholine, 4-nitroso-	59-89-2
N-Nitrosonornicotine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)-	16543-55-8
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100-75-4
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-9
5-Nitro-o-toluidine	Benzenamine, 2-methyl-5-nitro-	99-55-8
Octachlorodibenzo-p-dioxin (OCDD)	1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (7/02)	
Octachlorodibenzofuran(OCDF)	1,2,3,4,6,7,8,9-Octachlorodibenzofuran (7/02)	
Octamethylpyrophos-phoramide	Diphosphoramide, octamethyl-	152-16-9
Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816-12-0
Oxamyl (5/96)	Ethanimidothioc acid, 2-(dimethylamino)-N-[[(methylamino)carbonyl]oxy]-2-oxo-, methyl ester	23135-22-0
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
Parathion	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester	56-38-2
Pebulate	Carbamothioic acid, butylethyl-, S-propyl ester	1114-71-2
Pentachlorobenzene	Benzene, pentachloro-	608-93-5
Pentachlorodibenzo-p-dioxins		
Pentachlorodibenzofurans		
Pentachloroethane	Ethane, pentachloro-	76-01-7
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82-68-8
Pentachlorophenol	Phenol, pentachloro-	87-86-5
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62-44-2
Phenol	Same	108-95-2
1,2-Phenylenediamine	1,2-Benzenediamine	95-54-5
1,3-Phenylenediamine	1,3-Benzenediamine	108-45-2
Phenylenediamine	Benzenediamine	25265-76-3
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62-38-4
Phenylthiourea	Thiourea, phenyl-	103-85-5
Phosgene	Carbonic dichloride	75-44-5
Phosphine	Same	7803-51-2
Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298-02-2
Phthalic acid esters, N.O.S.[1]		
Phthalic anhydride	1,3-Isobenzofurandione	85-44-9
Physostigmine (5/96)	Pyrrolo[2,3-b]indol-5-01, 1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethyl-, methylcarbamate (ester), (3aS-cis)-	57-47-6
Physostigmine salicylate (5/96)	Benzoic acid, 2-hydroxy-, compd. with (3aS-cis) -1,2,3,3a,8,8a-hexahydro-1,3a,8-trimethylpyrrolo [2,3-b]indol-5-yl methylcarbamate ester (1:1).	57-64-7
2-Picoline	Pyridine, 2-methyl-	109-06-8
Polychlorinated biphenyls, N.O.S.[1]		
Potassium cyanide	Potassium cyanide K(CN)	151-50-8
Potassium dimethyldithiocarbamate (5/96)	Carbamodithioc acid, dimethyl, potassium salt	128-03-0
Potassium n-hydroxymethyl-n-methyl-dithiocarbamate	Carbamodithioic acid, (hydroxymethyl)methyl-, monopotassium salt	51026-28-9
Potassium n-methyldithiocarbamate (5/96)	Carbamodithioc acid, methyl-monopotassium salt	137-41-7
Potassium pentachlorophenate	Pentachlorophenol, potassium salt	7778736
Potassium silver cyanide	Argentate(1-), bis(cyano-C)-, potassium	506-61-6
Promecarb (5/96)	Phenol, 3-methyl-5-(1-methylethyl)-, methyl carbamate	2631-37-0
Pronamide	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23950-58-5
1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4
n-Propylamine	1-Propanamine	107-10-8
Propargyl alcohol	2-Propyn-1-ol	107-19-7
Propham	Carbamic acid, phenyl-, 1-methylethyl ester	122-42-9
Propoxur	Phenol, 2-(1-methylethoxy)-, methylcarbamate	114-26-1
Propylene dichloride	Propane, 1,2-dichloro-	78-87-5
1,2-Propylenimine	Aziridine, 2-methyl-	75-55-8
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-	51-52-5
Prosulfocarb	Carbamothioic acid, dipropyl-, S-(phenylmethyl) ester	52888-80-9
Pyridine	Same	110-86-1
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)-	50-55-5
Resorcinol	1,3-Benzenediol	108-46-3
Saccharin	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81-07-2
Saccharin salts		
Safrole	1,3-Benzodioxole, 5-(2-propenyl)-	94-59-7
Selenium	Same	7782-49-2
Selenium compounds, N.O.S.[1]		
Selenium dioxide	Selenious acid	7783-00-8
Selenium sulfide	Selenium sulfide SeS_2	7488-56-4
Selenium, tetrakis (dimethyl-dithiocarbamate.	Carbamodithioic acid, dimethyl-, tetraanhydrosulfide with orthothioselenious acid.	144-34-3
Selenourea	Same	630-10-4
Silver	Same	7440-22-4
Silver compounds, N.O.S.[1]		

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
Silver cyanide	Silver cyanide Ag(CN)	506-64-9
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1
Sodium cyanide	Sodium cyanide Na(CN)	143-33-9
Sodium dibutyldithiocarbamate	Carbamodithioic acid, dibutyl, sodium salt (5/96)	136-30-1
Sodium diethyldithiocarbamate	Carbamodithioic acid, diethyl-, sodium salt (5/96)	148-18-5
Sodium dimethyldithiocarbamate	Carbamodithioic acid, dimethyl-, sodium salt (5/96)	128-04-1
Sodium pentachlorophenate	Pentachlorophenol, sodium salt	131522
Streptozotocin	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-	18883-66-4
Strychnine	Strychnidin-10-one	57-24-9
Strychnine salts		
Sulfallate (5/96)	Carbamodithioic acid, diethyl-, 2-chloro-2-propenyl ester	95-06-7
TCDD	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	1746-01-6
Tetrabutylthiuram disulfide	Thioperoxydicarbonic diamide, tetrabutyl (5/96)	1634-02-2
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95-94-3
Tetrachlorodibenzo-p-dioxins		
Tetrachlorodibenzofurans		
Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322-20-7
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630-20-6
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79-34-5
Tetrachloroethylene	Ethene, tetrachloro-	127-18-4
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58-90-2
2,3,4,6-tetrachlorophenol, potassium salt	same	53535276
2,3,4,6-tetrachlorophenol, sodium salt	same	25567559
Tetraethyldithiopyrophos-phate	Thiodiphosphoric acid, tetraethyl ester	3689-24-5
Tetraethyl lead	Plumbane, tetraethyl-	78-00-2
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107-49-3
Tetramethylthiuram monosulfide	Bis(dimethylthiocarbamoyl) sulfide	97-74-5
Tetranitromethane	Methane, tetranitro-	509-14-8
Thallium	Same	7440-28-0
Thallium compounds, N.O.S.[1]		
Thallic oxide	Thallium oxide Tl_2O_3	1314-32-5
Thallium(I) acetate	Acetic acid, thallium(1+) salt	563-68-8
Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533-73-9
Thallium(I) chloride	Thallium chloride TlCl	7791-12-0
Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102-45-1
Thallium selenite	Selenious acid, dithallium(1+) salt	12039-52-0
Thallium(I) sulfate	Sulfuric acid, dithallium(1+) salt	7446-18-6
Thioacetamide	Ethanethioamide	62-55-5
Thiodicarb (5/96)	Ethanimidothioic acid, N,N'-[thiobis [(methylimino) carbonyloxy]] bis-, dimethyl ester.	59669-26-0
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-, 0-[(methylamino)carbonyl] oxime	39196-18-4
Thiomethanol	Methanethiol	74-93-1
Thiophanate-methyl	Carbamic acid, [1,2-phyenylenebis (iminocarbonothioyl)] bis-, dimethyl ester	23564-05-8
Thiophenol	Benzenethiol	108-98-5
Thiosemicarbazide	Hydrazinecarbothioamide	79-19-6
Thiourea	Same	62-56-6
Thiram	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-	137-26-8
Tirpate (5/96)	1,3-Dithiolane-2-carboxaldehyde, 2,4-dimethyl-, O-[(methylamino) carbonyl] oxime.	26419-73-8
Toluene	Benzene, methyl-	108-88-3
Toluenediamine	Benzenediamine, ar-methyl-	25376-45-8
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	95-80-7
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823-40-5
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0
Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471-62-5
o-Toluidine	Benzenamine, 2-methyl-	95-53-4
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5
p-Toluidine	Benzenamine, 4-methyl-	106-49-0
Toxaphene	Same	8001-35-2
Triallate (5/96)	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3,3-trichloro-2-propenyl) ester	2303-17-5
2,4,6-Tribromophenol. (11/99)	Tribromophenol.,2,4,6-	118-79-6
Tributyltin	Tributylstannane (6/02)	688-73-3

Appendix VIII Hazardous Constituents

Common name	Chemical abstracts name (9/98)	CAS #
Tributyltin Oxide	Bis(tri-n-butyltin) Oxide (6/02)	56-35-9
Tributyltin Chloride	Tributylchlorostannane (6/02)	1461-22-9
Tributyltin Hydroxide	Tributylhydroxystannane (6/02)	1067-97-6
Tributyltin Bromide	Tributylbromostannane (6/02)	1461-23-0
Tributyltin Acetate	(acetyloxy)tributylstannane (6/02)	56-36-0
Tributyltin Fluoride	Tributylfluorostannane (6/02)	1983-23-0
Triethyltin	Triethylstannane (6/02)	997-50-2
Triethyltin Chloride	Triethyltin Chloride (6/02)	994-31-0
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5
Trichloroethylene	Ethene, trichloro-	79-01-6
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7
Trichloromonofluoromethane	Methane, trichlorofluoro-	75-69-4
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5
Trichloropropane, N.O.S.[1]		25735-29-9
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4
Triethylamine (5/96)	Ethanamine, N,N-diethyl-	121-44-8
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-	99-35-4
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1',1''-phosphinothioylidynetris-	52-24-4
Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'diyl)bis(azo)]-bis[5-amino-4-hydroxy-, tetrasodium salt	72-57-1
Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	66-75-1
Vanadium pentoxide	Vanadium oxide V_2O_5	1314-62-1
Vernolate (5/96)	Carbamothioc acid, dipropyl-, S-propyl ester	1929-77-7
Vinyl chloride	Ethene, chloro-	75-01-4
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%	81-81-2
Warfarin salts, when present at concentrations less than 0.3%		
Warfarin salts, when present at concentrations greater than 0.3%		
Zinc cyanide	Zinc cyanide $Zn(CN)_2$	557-21-1
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	1314-84-7
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	1314-84-7
Ziram	Zinc, bis(dimethylcarbamodithioato-S,S')-, (T-4)-	137-30-4

[1]The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

Appendix IX Wastes Excluded under 260.20 & 260.22 - See 40 CFR 261.Appendix IX July 1, 2004, as amended.

Appendix X [Reserved 12/93]

Appendix XI Other Designated Waste

Hazardous Waste #	Substance (6/89, 6/95)
5555	Any solid waste the Department determines constitutes a hazard and requires greater control
7777	Non-hazardous waste received by a hazardous waste facility

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262 - STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

Subpart A - General

262.10 Purpose, scope, and applicability

(a) These regulations establish standards for generators of hazardous waste.

(b) R.61-79.261.5(c) and (d) must be used to determine the applicability of provisions of this part that are dependent on calculations of the quantity of hazardous waste generated per month. (5/96)

(c) A generator who treats, stores, or disposes of hazardous waste onsite must only comply with the following sections of this part with respect to that waste: Section 262.11 for determining whether or not he has a hazardous waste, 262.12 for obtaining an EPA identification number, 262.34 for accumulation of hazardous waste, 262.40 (c) and (d) for recordkeeping, 262.43 for additional reporting, and if applicable, 262.70 for farmers. (11/90, 12/92; 5/96)

(d) Any person who exports or imports hazardous waste subject to the Federal manifesting requirements of part 262, or subject to the universal waste management standards of 273, to or from the countries listed in 262.58(a)(1) for recovery must comply with subpart H of this part. (9/98)

(e) Any person who imports hazardous waste into the United States must comply with the standards applicable to generators established in this part.

(f) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of 262.70 is not required to comply with other standards in this part or R.61-79.270, R.61-79.264, or R.61-79.265 or .268 with respect to such pesticides.

(g) A person who generates a hazardous waste as defined by R.61-79.261 is subject to the compliance requirements and penalties prescribed in the South Carolina Hazardous Waste Management Act, section 44-56-140 of the Code of Laws of 1976 as amended, and section 3008 of the Act if he does not comply with the requirements of this part.

(h) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility must comply with the generator standards established in this part.

(i) Persons responding to an explosives or munitions emergency in accordance with 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii) are not required to comply with the standards of this part. (9/98)

(j) [Reserved]

(k) [Reserved]

(l) The laboratories owned by an eligible academic entity that chooses to be subject to the requirements of Subpart K of this part are not subject to (for purposes of this paragraph, the terms “laboratory” and “eligible academic entity” shall have the meaning as defined in 262.200 of Subpart K of this part.):

(1) the requirements of 262.11 or 262.34(c), for large quantity generators and small quantity generators, except as provided in Subpart K, and

(2) the conditions of 261.5(b), for conditionally exempt small quantity generators, except as provided in Subpart K.

Note 1: The provisions of 262.34 are applicable to the onsite accumulation of hazardous waste by generators. Therefore, the provisions of 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

Note 2: A generator who treats, stores, or disposes of hazardous waste onsite must comply with the applicable standards and permit requirements set forth in parts 264, 265, 266, 268, and 270.

262.11 Hazardous waste determination

A person who generates a solid waste, as defined in R.61-79.261.2 must accurately determine if that waste is a hazardous waste using the following method: (6/95)

(a) He should first determine if the waste is excluded from regulation under R.61-79.261.4.

(b) He must then determine if the waste is listed as a hazardous waste in subpart D of R.61-79.261.

Note: Even if the waste is listed, the generator still has an opportunity under 260.22 to demonstrate to the Department that the waste from his particular facility or operation is not a hazardous waste. (12/92)

(c) For purposes of compliance with 268, or if the waste is not listed in subpart D of R.61-79.261, the generator must then determine whether the waste is identified in subpart C of R.61-79.261 by either: (12/92)

(1) Testing the waste according to the methods set forth in subpart C of R.61-79.261, or according to an equivalent method approved by the Department under R.61-79.260.21; or

(2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(d) If the waste is determined to be hazardous, the generator must refer to parts 261, 264, 265, 266, 268 and 273 for possible exclusions or restrictions pertaining to management of the specific waste. (11/90; 5/96)

(e) Finally, he must make a determination if the waste is listed in Appendix XI of R.61-79.261 (moved 11/90).

262.12 Identification Numbers

(a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Department. (12/92)

(b) A generator who has not received an EPA identification number may obtain one by submitting the Notification Form required under 262.13. Upon receipt of the completed form the Department will assign an EPA identification number to the generator.

(c) A generator must not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number and a Department permit. A facility which has interim status is deemed permitted until issuance of a permit is made by the Department.

262.13 Notification Requirements upon Generators.

(a) Every generator within the State who produces a hazardous waste and has not previously done so shall file with the Department a Notification Form for that waste within thirty (30) days of the effective date of this regulation.

(b) Every generator within the State who produces a new hazardous waste shall file with the Department a revised or new Notification Form for that waste within thirty (30) days after such waste is first produced.

(c) Every generator within the State who produces a hazardous waste which is classified or listed for the first time by a revision of R.61-79.261 shall file with the Department a revised or new Notification Form for that waste within ninety (90) days after the effective date of such revision.

(d) The notification shall be on a form designated by the Department, shall be completed as required by the instructions supplied with such forms. The information to be furnished on the form shall include but not be limited to the location and general description of such activity, the identified or listed hazardous wastes handled by such person and, if applicable, a description of the production of energy recovery activity carried out at the facility and such other information as the Department deems necessary. A generator shall file a revised or new Notification form whenever the information previously provided becomes outdated or inaccurate. (5/93)

(e) Persons engaged in the following activities are required to make a separate notification:

(1) Producers of fuels from:

(i) Any hazardous waste identified or listed in R.61-79.261,

(ii) Used oil, and

(iii) Used oil and any other material.

(2) Burners (other than a single or two-family residence) for purposes of energy recovery any fuel produced as identified in paragraph 1.

(3) Distributors or marketers of any fuel as identified in paragraph 1.

(f) Every generator within the State who no longer produces any hazardous waste shall file with the Department one subsequent Notification form. (6/95)

Subpart B - The Manifest

262.20 General requirements

(a)(1) A generator who transports, or offers for transport a hazardous waste for offsite treatment, storage, or disposal, or a treatment, storage, and disposal facility who offers for transport a rejected hazardous waste load, must prepare a Manifest (OMB Control number 2050-0039) on EPA Form 8700-22, and, if necessary, EPA Form 8700-22A, according to the instructions included in the Appendix to this part.

(2) The revised manifest form and procedures in 260.10, 261.7, 262.20, 262.21, 262.27, 262.32, 262.34, 262.54, 262.60, and the Appendix to 262, shall not apply until September 5, 2006. The manifest form and procedures in 260.10, 261.7, 262.20, 262.21, 262.32, 262.34, 262.54, 262.60, and the Appendix to 262, contained in the parts 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006. (2/07)

(b) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(d) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

(e) The requirements of this subpart do not apply to hazardous waste produced by generators of greater than 100 kg but less than 1000 kg in a calendar month where:

(1) The waste is reclaimed under a contractual agreement pursuant to which:

(i) The type of waste and frequency of shipments are specified in the agreement,

(ii) The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste, and

(2) The generator maintains a copy of the reclamation agreement in his files for a period of at least three years after termination or expiration of the agreement. (12/96)

(f) The requirements of this subpart and 262.32(b) do not apply to the transport of hazardous wastes on a public or private right-of-way within or along the border of contiguous property under the control of the same person, even if such contiguous property is divided by a public or private right-of-way. Notwithstanding 263.10(a), the generator or transporter must comply with the requirements for transporters set forth in 263.30 and 263.31 in the event of a discharge of hazardous waste on a public or private right-of-way. (9/98)

(g) A generator shipping hazardous waste offsite must either be permitted to transport or utilize a transporter permitted pursuant to R.61-79.263. (6/89; moved 12/96)

262.21 Manifest tracking numbers, manifest printing, and obtaining manifests.

The manifest shall be on a form designated in 262.20(a), shall be completed as required by the instructions, and must contain all of the following information:

262.21 Note: Generators are required to use EPA forms from a registered source.

(*a*)(1) A registrant may not print, or have printed, the manifest for use or distribution unless it has received approval from the EPA Director of the Office of Solid Waste to do so under paragraphs (c) and (e) of this section.

(2) The approved registrant is responsible for ensuring that the organizations identified in its application are in compliance with the procedures of its approved application and the requirements of this section. The registrant is responsible for assigning manifest tracking numbers to its manifests.

(*b*) A registrant must submit an initial application to the EPA Director of the Office of Solid Waste that contains the following information:

(1) Name and mailing address of registrant;

(2) Name, telephone number and email address of contact person;

(3) Brief description of registrant's government or business activity;

(4) EPA identification number of the registrant if applicable;

(5) Description of the scope of the operations that the registrant plans to undertake in printing, distributing, and using its manifests, including:

(i) A description of the printing operation. The description should include an explanation of whether the registrant intends to print its manifests in-house (*i.e.*, using its own printing establishments) or through a separate (*i.e.*, unaffiliated) printing company. If the registrant intends to use a separate printing company to print the manifest on its behalf, the application must identify this printing company and discuss how the registrant will oversee the company. If this includes the use of intermediaries (e.g., prime and subcontractor relationships), the role of each must be discussed. The application must provide the name and mailing address of each company. It also must provide the name and telephone number of the contact person at each company;

(ii) A description of how the registrant will ensure that its organization and unaffiliated companies, if any, comply with the requirements of this section. The application must discuss how the registrant will ensure that a unique manifest tracking number will be

pre-printed on each manifest. The application must describe the internal control procedures to be followed by the registrant and unaffiliated companies to ensure that numbers are tightly controlled and remain unique. In particular, the application must describe how the registrant will assign manifest tracking numbers to its manifests. If computer systems or other infrastructure will be used to maintain, track, or assign numbers, these should be indicated. The application must also indicate how the printer will pre-print a unique number on each form (e.g., crash or press numbering). The application also must explain the other quality procedures to be followed by each establishment and printing company to ensure that all required print specifications are consistently achieved and that printing violations are identified and corrected at the earliest practicable time;

(iii) An indication of whether the registrant intends to use the manifests for its own business operations or to distribute the manifests to a separate company or to the general public (e.g., for purchase);

(6) A brief description of the qualifications of the company that will print the manifest. The registrant may use readily available information to do so (e.g., corporate brochures, product samples, customer references, documentation of ISO certification), so long as such information pertains to the establishments or company being proposed to print the manifest.

(7) Proposed unique three-letter manifest tracking number suffix. If the registrant is approved to print the manifest, the registrant must use this suffix to pre-print a unique manifest tracking number on each manifest;

(8) A signed certification by a duly authorized employee of the registrant that the organizations and companies in its application will comply with the procedures of its approved application and the requirements of this section and that it will notify the EPA Director of OSW of any duplicated manifest tracking numbers as soon as it becomes known.

(c) EPA will review the application submitted under paragraph (b) of this section and either approve it or requrest additional information or modification before approving it.

(d)(1) Upon EPA approval of the application under parapgraph (c) of this section, EPA will provide registrant an electronic file of the manifest, continuation sheet, and manifest instructions and ask the registrant to submit three fully assembled manifests and continuation sheet samples, except as noted in paragraph (d)(3) of this section. The registrant's samples must meet all of the specifications in paragraph (f) of this section and be printed by the company that will print the manifest as identified in the application approved under paragraph (c) of this section.

(2) The registrant must submit a description of the manifest samples as follows:

(i) Paper type; (i.e., manufacturer and grade of the manifest paper);

(ii) Paper weight of each copy;

(iii) Ink color of the manifest's instructions. If screening of the ink was used, the registrant must indicate the extent of the screening; and

(iv) Method of binding the copies.

(3) The registrant need not submit samples of the continuation sheet if it will print its continuation sheet using the same paper type, paper weight of each copy, ink color of the instructions, and binding method as its manifest form samples.

(e) EPA will evaluate the forms and either approve~~s~~ the registrant to print them as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decision by mail. The registrant cannot use or distribute its forms until EPA approves them. An approved registrant must print the manifest and continuation sheet according to its application approved under paragraph (c) and the manifest specifications in paragraph (f) of this section. It also must print the forms according to the paper type, paper weight, ink color of the manifest instructions, and binding method of its approved forms.

(f) Paper manifests and continuation sheets must be printed according to the following specifications:

(1) The manifest and continuation sheet must be printed with the exact format and appearance as EPA Forms 8700-22 and 8700-22A, respectively. However, information required to complete the manifest may be pre- printed on the manifest form.

(2) A unique manifest tracking number assigned in accordance with a numbering system approved by EPA must be pre-printed in Item 4. The tracking number must consist of a unique three-letter suffix following nine digits.

(3) The manifest and continuation sheet must be printed on durable 8.5x11 inch white paper, excluding common stubs (e.g., top- or side-bound stubs). The paper must be durable enough to withstand normal use.

(4) The manifest and continuation sheet must be printed in black ink that can be legibly photocopied, scanned, and faxed, except that the marginal words indicating copy distribution must be in red ink.

(5) The manifest and continuation sheet must be printed as six copy forms. Copy-to-copy registration must be exact within 1/32nd of an inch. Handwritten and typed impressions on the form must be legible on all six copies. Copies must be bound together by one or more common stubs that reasonably ensure that they will not become detached inadvertently during normal use.

(6) Each copy of the manifest and continuation sheet must indicate how the copy must be distributed, as follows:

(i) Page 1: (top copy) "Designated facility to destination State (if required)".

(ii) Page 2: "Designated facility to generator state (if required)".

(iii) Page 3: "Designated facility to generator".

(iv) Page 4: "Designated facility's copy".

(v) Page 5: "Transporter's copy".

(vi) Page 6: (bottom copy) "Generator's initial copy".

(7) The instructions in the appendix to part 262 must appear legibly on the back of the copies of the manifest and continuation sheet as provided in this paragraph (f). The instructions must not be visible through the front of the copies when photocopied or faxed.

(i) Manifest Form 8700-22:

(A) The "Instructions for Generators" on Copy 6;

(B) The "Instructions for International Shipment Block" and "Instructions for Transporters" on Copy 5; and

(C) The "Instructions for Treatment, Storage, and Disposal Facilities" on Copy 4.

(ii) Manifest Form 8700-22A:

(A) The "Instructions for Generators" on Copy 6;

(B) The "Instructions for Transporters" on Copy 5; and

(C) The "Instructions for Treatment, Storage, and Disposal Facilities" on Copy 4.

(g)(1) A generator may use manifests printed by any source so long as the source of the printed form has received approval from EPA to print the manifest under paragraphs (c) and (e) of this section. A registered source may be a:

(i) State agency;

(ii) Commercial printer;

(iii) Hazardous waste generator, transporter or TSDF; or

(iv) Hazardous waste broker or other preparer who prepares or arranges shipments of hazardous waste for transportation.

(2) A generator must determine whether the generator state or the consignment state for a shipment regulates any additional wastes (beyond those regulated federally) as hazardous wastes under these states' authorized programs. Generators also must determine whether the consignment state or generator state requires the generator to submit any copies of the manifest to these states. In cases where the generator must supply copies to either the generator's state or the consignment state, the generator is responsible for supplying legible photocopies of the manifest to these states. (2/07)

(h)(1) If an approved registrant would like to update any of the information provided in its application approved under paragraph (c) of this section (e.g., to update a company phone number or name of contact person), the registrant must revise the application and submit it to the EPA Director of the Office of Resource Conservation and Recovery, ~~SW~~ along with an indication or explanation of update ~~ASAP~~ as soon as practicable after the change occurs. The Agency either will approve or deny the revision. If the Agency denies the revision, it will explain the reasons for the denial, and it will contact the registrant and request further ~~for~~ modification before approval.

(2) If registrant would like a new tracking number suffix, the registrant must submit a proposed suffix to the EPA Director of the Office of Resource Conservation and Recovery, along with the reason for requesting it. The Agency will approve the suffix or deny the suffix and provide an explanation why it is not acceptable.

(3) If a registrant would like to change paper type, paper weight, ink color of the manifest instructions, or binding method of its manifest or continuation sheet subsequent to approval under paragraph (e) of this section, then the registrant must submit three samples of the revised form for EPA review and approval. If the approved registrant would like to use a new printer, the registrant must submit three manifest samples printed by the new printer, along with a brief description of the printer's qualifications to print the manifest. EPA will evaluate the manifests and either approve the registrant to print the forms as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decisions by mail. The registrant cannot use or distribute its revised forms until EPA approves them.

(i) If, subsequent to its approval under paragraph (e) of this section, a registrant typesets its manifest or continuation sheet instead of using the electronic file of the forms provided by EPA, it must submit three samples of the manifest or continuation sheet to the registry for approval. EPA will evaluate the manifests or continuation sheet to the registry for approval. EPA will evaluate the manifests or continuation sheets and either approve the registrant to print them as proposed or request additional information or modification to them before approval. EPA will notify the registrant of its decision by mail. The registrant cannot use or distribute its typeset forms until EPA approves them.

(j) EPA may exempt a registrant from the requirement to submit form samples under paragraph (d) or (h)(3) of this section if the Agency is persuaded that a separate review of the registrant's forms would serve little purpose in informing an approval decision (e.g., a registrant certifies that it will print the manifest using the same paper type, paper weight, ink color of the instructions and binding method of the form samples approved for some other registrant). A registrant may request an exemption from EPA by indicating why an exemption is warranted.

(k) An approved registrant must notify EPA by phone or email as soon as it becomes aware that it has duplicated tracking numbers on any manifests that have been used or distributed to other parties.

(l) If, subsequent to approval of a registrant under paragraph (e) of this section, EPA becomes aware that the approved paper type, paper weight, ink color of the instructions, or binding method of the registrant's forms is unsatisfactory, EPA will contact the registrant and require modifications to the form.

(m)(1) EPA may suspend and, if necessary, revoke printing privileges if we find that the registrant:

(i) Has used or distributed forms that deviate from its approved form samples in regard to paper weight, paper type, ink color of the instructions, or binding method; or

(ii) Exhibits a continuing pattern of behavior in using or distributing manifests that contain duplicate tracking numbers.

(2) EPA will send a warning letter to the registrant that specifies the date by which it must come into compliance with the requirements. If the registrant does not come into compliance by the specified date, EPA will send a second letter notifying the registrant that EPA has suspended or revoked its printing privileges. An approved registrant must provide information on its printing activities to EPA if requested.

262.22 Number of copies

The manifest consists of at least the number of copies which will provide the generator, each transporter and the owner or operator of the designated facility with one copy each for their records and copies to be returned to the generator from the facility. (6/97)

262.23 Use of the manifest

(a) The generator must:

(1) Sign the manifest certification by hand; and

(2) Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

(3) Retain one copy, in accordance with 262.40(a). (6/97)

(b) The generator must give the transporter the remaining copies of the manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter. (11/90, 12/92)

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to: (11/90)

(1) The next non-rail transporter, if any; or

(2) The designated facility if transported solely by rail; or

(3) The last rail transporter to handle the waste in the United States if exported by rail. (12/92; 12/93)

(e) For shipments of hazardous waste to a designated facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility. (11/90; 12/94)

Note: See 263.20(e) and (f) for special provisions for rail or water (bulk shipment) transporters.

(f) For rejected shipments of hazardous waste or container residues contained in non-empty containers that are returned to the generator by the designated facility (following the procedures of 264.72(f) or 265.72(f)), the generator must:

(1) sign either:

(i) Item 20 of the new manifest if a new manifest is used for the returned shipment; or

(ii) Item 18c of the original manifest if the original manifest is used for the returned shipmentt;

(2) Provide the transporter a copy of the manifest;

(3) Within 30 days of delivery of the rejected shipment or containers, send a copy of the manifest to the designed facility that returned the shipment to the generator; and

(4) Retain at the generator's site a copy of each manifest for at least three years from the date of delivery.

262.27 Waste Minimization Certification

A generator who initiates a shipment of hazardous waste must certify to one of the following statements in Item 15 of the uniform hazardous waste manifest:

(a) "I am a large quantity generator. I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment;" or

(b) "I am a small quantity generator. I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford." (2/07)

Subpart C - Pre-transport Requirements

262.30 Packaging

Before transporting hazardous waste or offering hazardous waste for transportation offsite, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR parts 173, 178, and 179 and the S.C. Public Service Commissions.

262.31 Labeling

Before transporting or offering hazardous waste for transportation offsite, a generator must label each package in accordance with the applicable S. C. Public Service Commission regulations and Department of Transportation regulations on hazardous materials under 49 CFR part 172.

262.32 Marking

(a) Before transporting or offering hazardous waste for transportation offsite, a generator must mark each package of hazardous waste in accordance with the applicable S. C. Public Service Commission regulations and Department of Transportation regulations on hazardous materials under 49 CFR part 172;

(b) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 119 gallons or less used in such transportation with the following words and information in accordance with the requirements of 49 CFR 172.304:

HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address _____

Generator's EPA Identification Number _____

Manifest Tracking Number _____

(2/07)

262.33 Placarding

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR part 172, subpart F and the S. C. Public Service Commission. If placards are not required a generator must mark each motor vehicle according to 49 CFR 171.3(b)(1) (12/92, 2/07)

262.34 Accumulation time

(a) Except as provided in paragraphs (d), and (f) of this section, a generator may accumulate hazardous waste onsite for 90 days or less without a permit or without having interim status, provided that: (5/93)

(1) The waste is placed:

(i) In containers and the generator complies with the applicable requirements of subparts I, AA, BB, and CC of 265; and/or (8/00)

(ii) In tanks and the generator complies with the applicable requirements of subparts J, AA, BB, and CC of 265 except 265.197(c) and 265.200; and/or (8/00)

(iii) On drip pads and the generator complies with subpart W of part 265 and maintains the following records at the facility: (9/98)

(A) A description of procedures that will be followed to ensure that all wastes are removed from the drip pad and associated collection system at least once every 90 days; and

(B) Documentation of each waste removal, including the quantity of waste removed from the drip pad and the sump or collection system and the date and time of removal; and/or

(iv) In containment buildings and the generator complies with subpart DD of 265, has placed its professional engineer certification that the building complies with the design standards specified in 265.1101 in the facility's operating record no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit. The owner or operator shall maintain the following records at the facility: (12/93)

(A) A written description of procedures to ensure that each waste volume remains in the unit for no more than 90 days, a written description of the waste generation and management practices for the facility showing that they are consistent with respecting the 90 day limit, and documentation that the procedures are complied with; or (12/93)

(B) Documentation that the unit is emptied at least once every 90 days.

(v) In addition, such a generator is exempt from all the requirements in subparts G and H of R.61-79.265, except for 265.111 and 265.114.

(2) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container. (5/93, 5/95, 6/97)

(3) While being accumulated onsite, each container and tank is labeled or marked clearly with the EPA Hazardous Waste Number and the words: "Hazardous Waste - federal laws prohibit improper disposal." (6/95, 6/97)

(4) The generator complies with the requirements for owners or operators in subparts C and D in R.61-79.265, with 265.15(d) and 265.16, and with all applicable requirements under part 268. (10/01, 10/12)

(5) A generator may not stack containers of hazardous waste more than two containers high without first obtaining written approval from the Department. This requirement will become effective 90 days after publication in the State Register. (6/95)

(b) A generator who accumulates 1,000 kilograms or greater of hazardous waste in a calendar month, or greater than 1 kilogram of acute hazardous waste listed in 261.31 or 261.33(e) in a calendar month, who accumulates hazardous waste or acute hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of 264 and 265 (6/89) and the permit requirements of 270 (10/12) unless he has been granted an extension to the 90-day period. Such extension may be granted by the Department if hazardous wastes must remain onsite for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Department on a case-by-case basis. (12/92)

(c) (12/92; 5/93; 6/95)

(1) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in 261.31 or 261.33(e) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) of (d) of this section provided he: (6/95, 6/97)

(i) Complies with R.61-79.265.171, 265.172, and 265.173(a); and

(ii) Marks his containers either with the words: "HAZARDOUS WASTE " or with other words that identify the contents of the container.

(iii) Complies with R.61-79.265.16(a) (1) and (d)(4). The requirements of R.61-79.265.16(a) must be repeated as necessary when there is a change in the hazardous waste being accumulated.

(2) A generator who accumulates either hazardous waste or acutely hazardous waste listed in 261.31 or 261.33(e) in excess of the amounts listed in paragraph (c)(1) of this section at or near any point of generation must, with respect to that amount of excess waste, comply within three days with paragraph (a) of this section or other applicable provisions. During the three-day period the generator must continue to comply with paragraphs (c)(1)(i) and (ii) of this section. The generator must mark the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

(d) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month may accumulate hazardous waste onsite for 180 days or less without a permit or without having interim status provided that: (6/89, 12/92)

(1) The quantity of waste accumulated onsite never exceeds 6000 kilograms;

(2) The generator complies with the requirements of subpart I of R.61-79.265, except 265.175, .176, and .178; (6/95, 9/98)

(3) The generator complies with the requirements of subpart J, R.61-79.265.201.

(4) The generator complies with the requirements of paragraphs (a)(2) and (a)(3) of this section, the requirements of subpart C of R.61-79.265, the requirements of 268.7(a)(5); and (8/00)

(5) The generator complies with the following requirements:

(i) At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d)(5)(iv) of this section. This employee is the emergency coordinator. (11/90)

(ii) The generator must post the following information next to the telephone:

(A) The name and telephone number of the emergency coordinator;

(B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) The telephone number of the fire department, unless the facility has a direct alarm.

(iii) The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

(C) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802) and the Department emergency response number 803-253-6488. The report must include the following information:

(1) The name, address, and U.S. EPA Identification Number of the generator;

(2) Date, time, and type of incident (e.g., spill or fire);

(3) Quantity and type of hazardous waste involved in the incident;

(4) Extent of injuries, if any; and

(5) Estimated quantity and disposition of recovered materials, if any.

(6) The generator complies with R.61-79.262.34(c) except for 262.34(c)(1)(iii). (6/95)

(e) (Reserved).

(f) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding 6000 kg or accumulates hazardous waste for more than 180 days is an operator of a storage facility and is subject to the requirements of R.61-79.264 and R.61-79.265 and the permit requirements of R.61-79.270 unless he has been granted an extension to the 180-day period. Such extension may be granted by the Department if hazardous wastes must remain onsite for longer than 180 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Department on a case-by-case basis. (11/90)

(g) A generator who generates 1,000 kilograms or greater of hazardous waste per calendar month who also generates wastewater treatment sludges from electroplating operations that meet the listing description for the RCRA hazardous waste code F006, may accumulate F006 waste on-site for more than 90 days, but not more than 180 days without a permit or without having interim status provided that: (10/01)

(1) The generator has implemented pollution prevention practices that reduce the amount of any hazardous substances, pollutants or contaminants entering F006 or otherwise released to the environment prior to its recycling;

(2) The F006 waste is legitimately recycled through metals recovery;

(3) No more than 20,000 kilograms of F006 waste is accumulated on-site at any one time; and

(4) The F006 waste is managed in accordance with the following:

(i) The F006 waste is placed:

(A) In containers and the generator complies with the applicable requirements of subparts I, AA, BB, and CC of part 265; and/or

(B) In tanks and the generator complies with the applicable requirements of subparts J, AA, BB, and CC of part 265, except 265.197(c) and 265.200; and/or 262.34(g)(4)(i)(C)

(C) In containment buildings and the generator complies with subpart DD of part 265, and has placed its professional engineer certification that the building complies with the design standards specified in 265.1101 in the facility's operating record prior to operation of the unit. The owner or operator must maintain the following records at the facility:

(1) A written description of procedures to ensure that the F006 waste remains in the unit for no more than 180 days, a written description of the waste generation and management practices for the facility showing that they are consistent with the 180-day limit, and documentation that the generator is complying with the procedures; or

(2) Documentation that the unit is emptied at least once every 180 days.

(ii) In addition, such a generator is exempt from all the requirements in subparts G and H of part 265, except for 265.111 and 265.114.

(iii) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

(iv) While being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste;" and

(v) The generator complies with the requirements for owners or operators in subparts C and D in part 265, with 265.16, and with 268.7(a)(5).

(h) [Reserved 9/01]

(i) A generator accumulating F006 in accordance with paragraphs (g) and (h) of this section who accumulates F006 waste on-site for more than 180 days, or who accumulates more than 20,000 kilograms of F006 waste on-site is an operator of a storage facility and is subject to the requirements of parts 264 and 265 and the permit requirements of part 270 unless the generator has been granted an extension to the 180-day period or an exception to the 20,000 kilogram accumulation limit. Such extensions and exceptions may be granted if F006 waste must remain on-site for longer than 180 days or if more than 20,000 kilograms of F006 waste must remain on-site due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days or an exception to the accumulation limit may be granted at the discretion of the Bureau on a case-by-case basis.(10/01)

(j) [Reserved]

(k) [Reserved]

(1) [Reserved]

(m) A generator who sends a shipment of hazardous waste to a designated facility with the understanding that the designated facility can accept and manage the waste and later receives that shipment back as a rejected load or residue in accordance with the manifest discrepancy provisions of 264.72 or 265.72 of this chapter may accumulate the returned waste on-site in accordance with paragraphs (a) and (b) or (d), (e) and (f) of this section, depending on the amount of hazardous waste on-site in that calendar month. Upon receipt of the returned shipment, the generator must:

(1) Sign Item 18c of the manifest, if the transporter returned the shipment using the original manifest; or

(2) Sign Item 20 of the manifest, if the transporter returned the shipment using a new manifest. (2/07)

262.35 [Reserved 6/97]

Subpart D - Recordkeeping And Reporting

262.40 Recordkeeping

(a) A generator must keep a copy of each manifest signed in accordance with section 262.23(a) onsite for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.(5/93)

(b) A generator must keep a copy of each Quarterly Report and Exception Report onsite for a period of at least three years from the due date of the report as set by the Department.(5/93)

(c) A generator must keep records onsite of any test results, waste analyses, or other determinations made in accordance with R.61-79.262.11 for at least three years from the date that the waste was last sent to onsite or offsite treatment, storage, or disposal.(5/93)

(d) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

(e) Reserved 6/97

262.41 Quarterly reporting

(a) Each generator of more than 1000 kg/mo of hazardous waste who ships any hazardous waste offsite to a treatment, storage or disposal facility within the United States must prepare and, no later than thirty (30) days after the end of each calendar quarter, submit a written report to the Department including, but not limited to, the following information unless otherwise indicated (11/90, 12/93).

(1) The EPA identification number, name, and address of the generator;

(2) The calendar quarter covered by the report;

(3) The EPA identification number, name, and address for each offsite treatment, storage, or disposal facility in the United States to which waste was shipped during the quarter.

(4) The name and EPA identification number of each transporter used during the reporting quarter for shipments to a treatment, storage or disposal facility within the United States;

(5) A description, the EPA hazardous waste number [from R.61-79.261 Subpart C or D], DOT hazardous class, and quantity of each hazardous waste shipped offsite for shipments to a treatment, storage, or disposal facility within the United States. This information must be listed by the EPA identification number of each such facility to which waste was shipped. (12/92, 6/95, 6/97)

(6) The types and quantities of such wastes shipped for offsite treatment and disposal;

(7) The types and quantities of such wastes remaining in storage at the end of the reporting period; and

(8) Certification of information signed by the generator or his authorized representative.

(b) Any generator must submit the information required by paragraph (a) on a form designated by the Department and according to the instructions included with such form. Reporting for exports of hazardous waste is not required on the Report form. A separate annual report requirement is set forth at 262.56. (10/01)

262.42 Exception reporting

(a)(1) A generator of with 1000 kilograms or greater of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.(12/92)

(2) A generator of 1000 kilograms or greater of hazardous waste in a calendar month must submit an Exception Report to the Agency if he has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

(b) A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 60 days of the date the waste was accepted by the initial transporter must submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the Agency. (12/92, 2/07)

Note: The submission need only be a handwritten or typed note on the manifest itself, or on an attached sheet of paper, stating that the return copy was not received. (12/9, 2/07)

(c) For rejected shipments of hazardous waste or container residues contained in non-empty containers that are forwarded to an alternate facility by a designated facility using a new manifest (following the procedures of 264.72(e)(1) through (6) or 265.72(e)(1) through (6)), the generator must comply with the requirements of paragraph (a) or (b) of this section, as applicable, fo the shipment forwarding the material from the designated facility to the alternate facility

instead of for the shipment from the generator to the designated facility. For purposes of paragraph (a) or (b) of this section for a shipment forwarding such waste to an alternate facility by a designated facility:

(1) The copy of the manifest received by the generator must have the handwritten signature of the owner or operator of the alternate facility in place of the signature of the owner or operator of the designated facility, and

(2) The 35/45/60-day timeframes begin the date the waste was accepted by the initial transporter forwarding the hazardous waste shipment from the designated facility to the alternate facility.

Note to paragraph (c): The submission to the Department need only be a handwritten or typed note on the manifest itself, or on an attached sheet of paper, stating that the return copy was not received.

262.43 Additional reporting

(a) Any generator within the State who treats or disposes or stores hazardous wastes onsite for more than ninety (90) days shall also comply with the reporting requirements of R.61-79.264.75 or R.61-79.265.75.

(b) The Department may require, as deemed necessary, generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in R.61-79.261 (12/93).

(c) With the fourth quarter's report, a description of the efforts undertaken during the year to reduce the volume and toxicity of wastes generated; (moved 12/93)

(d) With the fourth quarter's report, a description of the changes in volume and toxicity of wastes actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984. (moved 12/93)

262.44 Special requirements for generators of between 100 and 1000 kg/mo

A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month is subject only to the following requirements in this subpart (6/89):

(a) Section 262.40(a), (c), and (d), recordkeeping;

(b) Annual declaration: must declare status annually on or before January 31 by submission of a completed form as designated by the Department on which he certifies that he is a small quantity generator and provisionally exempt from full regulation and that should his status change during the calendar year he will comply fully with all requirements including quarterly reporting; (6/89, 11/90; moved 12/92 from 261.5(k))

(c) Section 262.42, exception reporting; and

(d) Section 262.43, additional reporting.

262.45 Hazardous waste contingency fund fees

The Department will notify each in-State generator the fee to be paid for his wastes which are land filled or other means of land disposal in this State. A check made payable to the Department [See 44-56-170 and 44-56-510] of fees of $34.00 per ton of hazardous waste and $13.70 per ton of nonhazardous wastes. $10 per ton of hazardous waste incinerated must be paid to the facility receiving the waste and remitted to the Department. (moved 12/93)

Subpart E - Special Conditions - Exports of Hazardous Waste

262.50 Applicability

This subpart establishes requirements applicable to exports of hazardous waste. Except to the extent 262.58 provides otherwise, a primary exporter of hazardous waste must comply with the special requirements of this subpart and a transporter transporting hazardous waste for export must comply with applicable requirements of R.61-79.263. Section 262.58 sets forth the requirements of international agreements between the United States and receiving countries which establish different notice, export, and enforcement procedures for the transportation, treatment, storage and disposal of hazardous waste for shipments between the United States and those countries.(12/92)

262.51 Definitions

In addition to the definitions set forth at R.61-79.260.10, the following definitions apply to this subpart:

"Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste will be sent.

"EPA Acknowledgement of Consent" means the cable sent to EPA and to the Department from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

"Primary Exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with R.61-79.262, subpart B, which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

"Receiving Country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

"Transit Country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

262.52 General requirements

Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this subpart and R.61-79.263. Exports of hazardous waste are prohibited unless:

(a) Notification in accordance with 262.53 has been provided;

(b) The receiving country has consented to accept the hazardous waste;

(c) A copy of the EPA Acknowledgement of Consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest [or shipping paper for exports by water (bulk shipment)].

(d) The hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA Acknowledgment of Consent.

262.53 Notification of intent to export

(a) A primary exporter of hazardous waste must notify EPA and the Department of an intended export before such waste is scheduled to leave the United States. A complete notification should be submitted sixty (60) days before the initial shipment is intended to be shipped offsite. This notification may cover export activities extending over a twelve (12) month or lesser period. The notification must be in writing, signed by the primary exporter, and include the following information:

(1) Name, mailing address, telephone number and EPA ID number of the primary exporter;

(2) By consignee, for each hazardous waste type:

(i) A description of the hazardous waste and the EPA hazardous waste number (from R.61-79.261, subparts C and D), U.S. DOT proper shipping name, hazard class and ID number (UN/NA) for each hazardous waste as identified in 49 CFR parts 171 through 177;

(ii) The estimated frequency or rate at which such waste is to be exported and the period of time over which such waste is to be exported.

(iii) The estimated total quantity of the hazardous waste in units as specified in the instructions to the Uniform Hazardous Waste Manifest Form (8700-22);

(iv) All points of entry to and departure from each foreign country through which the hazardous waste will pass;

(v) A description of the means by which each shipment of the hazardous waste will be transported (e.g., mode of transportation vehicle (air, highway, rail, water, etc.), type(s) of container [drums, boxes, tanks, etc.]);

(vi) A description of the manner in which the hazardous waste will be treated, stored or disposed of in the receiving country (e.g., land or ocean incineration, other land disposal, ocean dumping, recycling);

(vii) The name and site address of the consignee and any alternate consignee; and

(viii) The name of any transit countries through which the hazardous waste will be sent and a description of the approximate length of time the hazardous waste will remain in such country and the nature of its handling while there;

(b) Notifications submitted by mail should be sent to the following mailing address: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Hand-delivered notifications should be sent to: Office of Federal Activities, International Compliance Assurance Division", after "Ariel Rios Bldg., Environmental Protection Agency, Ariel Rios Bldg., Room 6144, 12th St., and Pennsylvania Ave., NW., Washington, DC. 20004. In both cases, the following shall be prominently displayed on the front of the envelope: AAttention: Notification of Intent to Export.@ (12/93, 9/98)

(c) Except for changes to the telephone number in paragraph (a)(1) of this section, changes to paragraph (a)(2)(v) of this section and decreases in the quantity indicated pursuant to paragraph (a)(2)(iii) of this section when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous waste specified in the original notification), the primary exporter must provide EPA and the Department with a written renotification of the change. The shipment cannot take place until consent of the receiving country to the changes (except for changes to paragraph (a)(2)(viii) of this section and in the ports of entry to and departure from transit countries pursuant to paragraph (a)(2)(iv) of this section) has been obtained and the primary exporter receives an EPA Acknowledgment of Consent reflecting the receiving country's consent to the changes. (12/92)

(d) Upon request by either EPA or the Department, a primary exporter shall furnish to EPA and the Department any additional information which a receiving country requests in order to respond to a notification.

(e) In conjunction with the Department of State, EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA and the Department receive a notification which EPA determines satisfies the requirements of paragraph (a) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by paragraph (a) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with R.61-79.260.2.

(f) Where the receiving country consents to the receipt of the hazardous waste, EPA will forward an

EPA Acknowledgment of Consent to the primary exporter for purposes of 262.54(h). Where the receiving country objects to receipt of the hazardous waste or withdraws a prior consent, EPA will notify the primary exporter in writing. EPA will also notify the primary exporter of any responses from transit countries. (11/90)

262.54 Special manifest requirements

A primary exporter must comply with the manifest requirements of 262.20 through 262.23 except that:

(a) In lieu of the name, site address and EPA ID number of the designated permitted facility, the primary exporter must enter the name and site address of the consignee;

(b) In lieu of the name, site address and EPA ID number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee.

(c) In the International Shipments block, the primary exporter must check the export box and enter the point of exit (city and state) from the United States.(2/07)

(d) The following statement must be added to the end of the first sentence of the certification set forth in Item 16 of the Uniform Hazardous Waste Manifest Form: "and conforms to the terms of the attached EPA Acknowledgment of Consent";

(e) The primary exporter may obtain the manifest from any source that is registered with the U.S. EPA as a supplier of manifests (e.g., states, waste handlers, and/or commercial forms printers).(2/07)

(f) The primary exporter must require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies (as defined in 264.72(a)) between the manifest and the shipment. A copy of the manifest signed by such facility may be used to confirm delivery of the hazardous waste.

(g) In lieu of the requirements of 262.20(d), where a shipment cannot be delivered for any reason to the designated or alternate consignee, the primary exporter must:

(1) Renotify EPA and the Department of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with 262.53(c) and obtain an EPA Acknowledgment of Consent prior to delivery; (11/90) or

(2) Instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States; and

(3) Instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

(h) The primary exporter must attach a copy of the EPA Acknowledgment of Consent to the shipment to the manifest which must accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter must provide the transporter with an EPA Acknowledgment of Consent which must accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter must attach the copy of the EPA Acknowledgment of Consent to the shipping paper.

(i) The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the U.S. Customs official at the point the hazardous waste leaves the United States in accordance with R.61-79.263.20(g)(4).

262.55 Exception reports

In lieu of the requirements of 262.42, a primary exporter must file an exception report with the EPA Administrator and the Department if: (11/90)

(a) He has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within forty-five (45) days from the date it was accepted by the initial transporter;

(b) Within ninety (90) days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received;

(c) The waste is returned to the United States.

262.56 Annual reports

(a) Primary exporters of hazardous waste shall file with the EPA Administrator and the Department no later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. Such reports shall include the following:

(1) The EPA identification number, name, and mailing and site address of the exporter;

(2) The calendar year covered by the report;

(3) The name and site address of each consignee;

(4) By consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from part 261, subpart C or D), DOT hazard class, the name and US EPA ID number (where applicable) for each transporter used, the total amount of waste shipped and number of shipments pursuant to each notification; (12/92)

(5) Except for hazardous waste produced by exporters of greater than 100 kg but less than 1000 kg in a calendar month, unless provided pursuant to 262.41 (quarterly reporting), in even numbered years: (6/89, 12/92)

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(6) A certification signed by the primary exporter which states: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(b) Reports shall be sent to the following mailing addresses: Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 1200 Pennsylvania Ave., NW., Washington, DC 20460 and the Bureau of Land and Waste Management, Department of Health and Environmental Control, 2600 Bull Street, Columbia, SC 29201. (11/90; 12/93, 9/98, 6/08)

262.57 Recordkeeping

(a) For all exports a primary exporter must:

(1) Keep a copy of each notification of intent to export for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(2) Keep a copy of each EPA Acknowledgment of Consent for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(3) Keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least three years from the date the hazardous waste was accepted by the initial transporter; and

(4) Keep a copy of each annual report for a period of at least three years from the due date of the report.

(b) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the EPA Administrator or the Department.

262.58 International agreements

(a) Any person who exports or imports hazardous waste subject to manifest requirements of Part 262, or subject to the universal waste management standards of 273, to or from designated member countries of the Organization for Economic Cooperation and Development (OECD) as defined in paragraph (a)(1) of this section for purposes of recovery is subject to Subpart H of this part. The requirements of Subparts E and F do not apply. (9/98)

(1) For the purposes of this Subpart, the designated OECD countries consist of Australia, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, South Korea, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

(2) For the purposes of this Subpart, Canada and Mexico are considered OECD member countries only for the purpose of transit.

(b) Any person who exports hazardous waste to or imports hazardous waste from: a designated OECD member country for purposes other than recovery (e.g., incineration, disposal), Mexico (for any purpose), or Canada (for any purpose) remains subject to the requirements of subparts E and F of this part.

Subpart F - Imports of Hazardous Waste

262.60 Imports of hazardous waste

(a) Any person who imports hazardous waste from a foreign country into this State must comply with the requirements of this part and the special requirements of this subpart.

(b) When importing hazardous waste, a person must meet all the requirements of 262.20 for the manifest except that:

(1) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number must be used.

(2) In place of the generator's signature on the certification statement, the U.S. importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(c) A person who imports hazardous waste may obtain the manifest form from any source that is registered with the U.S. EPA as a supplier of manifests (e.g., states, waste handlers, and/or commercial forms printers).

(d) In the International Shipments block, the importer must check the import box and enter the point of entry (city and state) into the United States.

(e) The importer must provide the transporter with an additional copy of the manifest to be submitted by the receiving facility to U.S. EPA in accordance with 264.71(a)(3) and 265.71(a)(3) of this chapter. (2/07)

Subpart G - Farmers

262.70 Farmers

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this part or other standards in R.61-79.270, R.61-79.264, R.61-79.265, R.61-79.266 or R.61-79.268 for those wastes provided he triple rinses each emptied pesticide container in accordance with R.61-79.261.7(b)(3) and disposes of the pesticide residues on his own farm in a manner consistent with

the disposal instructions on the pesticide label. (11/90; 12/93)

Subpart H - Transfrontier Shipments Of Hazardous Waste for Recovery Within the OECD

262.80 Applicability

(a) The requirements of this subpart apply to imports and exports of wastes that are considered hazardous under U.S. national procedures and are destined for recovery operations in the countries listed in 262.58(a)(1). A waste is considered hazardous under U.S. national procedures if it meets the federal definition of hazardous waste in 261.3 and it is subject to either the federal manifesting requirements at 262, Subpart B, or to the universal waste management standards of 273. (9/98)

(b) Any person (notifier, consignee, or recovery facility operator) who mixes two or more wastes (including hazardous and nonhazardous wastes) or otherwise subjects two or more wastes (including hazardous and nonhazardous wastes) to physical or chemical transformation operations, and thereby creates a new hazardous waste, becomes a generator and assumes all subsequent generator duties under RCRA and any notifier duties, if applicable, under this subpart.

262.81 Definitions

The following definitions apply to this subpart.

(a) "Competent authorities" means the regulatory authorities of concerned countries having jurisdiction over transfrontier movements of wastes destined for recovery operations. (9/98)

(b) "Concerned countries" means the exporting and importing OECD member countries and any OECD member countries of transit.

(c) "Consignee" means the person to whom possession or other form of legal control of the waste is assigned at the time the waste is received in the importing country.

(d) "Country of transit" means any designated OECD country in 262.58(a)(1) and (a)(2) other than the exporting or importing country across which a transfrontier movement of wastes is planned or takes place.

(e) "Exporting country" means any designated OECD member country in 262.58(a)(1) from which a transfrontier movement of wastes is planned or has commenced.

(f) "Importing country" means any designated OECD country in 262.58(a)(1) to which a transfrontier movement of wastes is planned or takes place for the purpose of submitting the wastes to recovery operations therein.

(g) "Notifier" means the person under the jurisdiction of the exporting country who has, or will have at the time the planned transfrontier movement commences, possession or other forms of legal control of the wastes and who proposes their transfrontier movement for the ultimate purpose of submitting them to recovery operations. When the United States (U.S.) is the exporting country, notifier is interpreted to mean a person domiciled in the U.S.

(h) "OECD area" means all land or marine areas under the national jurisdiction of any designated OECD member country in 262.58. When the regulations refer to shipments to or from an OECD country, this means OECD area.

(i) "Recognized trader" means a person who, with appropriate authorization of concerned countries, acts in the role of principal to purchase and subsequently sell wastes; this person has legal control of such wastes from time of purchase to time of sale; such a person may act to arrange and facilitate transfrontier movements of wastes destined for recovery operations.

(j) "Recovery facility" means an entity which, under applicable domestic law, is operating or is authorized to operate in the importing country to receive wastes and to perform recovery operations on them.

(k) "Recovery operations" means activities leading to resource recovery, recycling, reclamation, direct reuse or alternative uses as listed in Table 2.B of the Annex of OECD Council Decision C(88)90(Final) of 27 May 1988, (available from the Environmental Protection Agency, RCRA Docket, EPA/DC, EPA West, Room B102, 1301 Constitution Ave., NW., Washington, DC 20460 (Docket # F-94-IEHF-FFFFF) and the Organisation for Economic Cooperation and Development, Environment Directorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France) which include:

R1 Use as a fuel (other than in direct incineration) or other means to generate energy

R2 Solvent reclamation/regeneration

R3 Recycling/reclamation of organic substances which are not used as solvents

R4 Recycling/reclamation of metals and metal compounds

R5 Recycling/reclamation of other inorganic materials

R6 Regeneration of acids or bases

R7 Recovery of components used for pollution control

R8 Recovery of components from catalysts

R9 Used oil rerefining or other reuses of previously used oil

R10 Land treatment resulting in benefit to agriculture or ecological improvement

R11 Uses of residual materials obtained from any of the operations numbered R1 to R10

R12 Exchange of wastes for submission to any of the operations numbered R1 to R11

R13 Accumulation of material intended for any operation in Table 2.B.

(l) "Transfrontier movement" means any shipment of wastes destined for recovery operations from an area under the national jurisdiction of one OECD member country to an area under the national jurisdiction of another OECD member country.

262.82 General conditions

(a) Scope. The level of control for exports and imports of waste is indicated by assignment of the waste to a green, amber, or red list and by U.S. national procedures as defined in 262.80(a). The green, amber, and red lists are incorporated by reference in 262.89(e).(9/98)

(1) Wastes on the green list are subject to existing controls normally applied to commercial transactions, except as provided below:

(i) Green-list wastes that are considered hazardous under U.S. national procedures are subject to amberlist controls.

(ii) Greenlist waste that are sufficiently contaminated or mixed with amberlist wastes, such that the waste or waste mixture is considered hazardous under U.S. national procedures, are subject to amberlist controls.

(iii) Greenlist wastes that are sufficiently contaminated or mixed with other wastes subject to redlist controls such that the waste or waste mixture is considered hazardous under U.S. national procedures must be handled in accordance with the redlist controls.

(2) Wastes on the amber list that are considered hazardous under U.S. national procedures as defined in 262.80(a) are subject to the amberlist controls of this Subpart.

(i) If amberlist wastes are sufficiently contaminated or mixed with other wastes subject to redlist controls such that the waste or waste mixture is considered hazardous under U.S. national procedures, the wastes must be handled in accordance with the redlist controls.

(ii) [Reserved].

(3) Wastes on the red list that are considered hazardous under U.S. national procedures as defined in 262.80(a) are subject to the redlist controls of this subpart.

Note to paragraph (a)(3): Some wastes on the amber or red lists are not listed or otherwise identified as hazardous under RCRA (e.g., polychlorinated biphenyls) and therefore are not subject to the amber or redlist controls of this subpart. Regardless of the status of the waste under RCRA, however, other federal environmental statutes (e.g., the Toxic Substances Control Act) may restrict certain waste imports or exports. Such restrictions continue to apply without regard to this Subpart.

(4) Wastes not yet assigned to a list are eligible for transfrontier movements, as follows:

(i) If such wastes are considered hazardous under U.S. national procedures as defined in 262.80(a), these wastes are subject to the redlist controls; or

(ii) If such wastes are not considered hazardous under U.S. national procedures as defined in 262.80(a), such wastes may move as though they appeared on the green list.

(b) General conditions applicable to transfrontier movements of hazardous waste.

(1) The waste must be destined for recovery operations at a facility that, under applicable domestic law, is operating or is authorized to operate in the importing country;

(2) The transfrontier movement must be in compliance with applicable international transport agreements; and Note to paragraph (b)(2): These international agreements include, but are not limited to, the Chicago Convention (1944), ADR (1957), ADNR (1970), MARPOL Convention (1973/1978), SOLAS Convention (1974), IMDG Code (1985), COTIF (1985), and RID (1985).

(3) Any transit of waste through a non-OECD member country must be conducted in compliance with all applicable international and national laws and regulations.

(c) Provisions relating to re-export for recovery to a third country.

(1) Re-export of wastes subject to the amberlist control system from the U.S., as the importing country, to a third country listed in 262.58(a)(1) may occur only after a notifier in the U.S. provides notification to and obtains consent of the competent authorities in the third country, the original exporting country, and new transit countries. The notification must comply with the notice and consent procedures in 262.83 for all concerned countries and the original exporting country. The competent authorities of the original exporting country as well as the competent authorities of all other concerned countries have 30 days to object to the proposed movement.

(i) The 30-day period begins once the competent authorities of both the initial exporting country and new importing country issue Acknowledgments of Receipt of the notification.

(ii) The transfrontier movement may commence if no objection has been lodged after the 30-day period has passed or immediately after written consent is received from all relevant OECD importing and transit countries.

(2) Re-export of waste subject to the redlist control system from the original importing country to a third country listed in 262.58(a)(1) may occur only following notification of the competent authorities of the third country, the original exporting country, and new transit countries by a notifier in the original importing country in accordance with 262.83. The transfrontier movement may not proceed until receipt

by the original importing country of written consent from the competent authorities of the third country, the original exporting country, and new transit countries.

(3) In the case of re-export of amber or redlist wastes to a country other than those in 262.58(a)(1), notification to and consent of the competent authorities of the original OECD member country of export and any OECD member countries of transit is required as specified in paragraphs (c)(1) and (c)(2) of this section in addition to compliance with all international agreements and arrangements to which the first importing OECD member country is a party and all applicable regulatory requirements for exports from the first importing country.

262.83 Notification and consent.

(a) Applicability. Consent must be obtained from the competent authorities of the relevant OECD importing and transit countries prior to exporting hazardous waste destined for recovery operations subject to this Subpart. Hazardous wastes subject to amberlist controls are subject to the requirements of paragraph (b) of this section; hazardous wastes subject to redlist controls are subject to the requirements of paragraph (c) of this section; and wastes not identified on any list are subject to the requirements of paragraph (d) of this section. (9/98)

(b) Amberlist wastes. The export from the U.S. of hazardous wastes as described in 262.80(a) that appear on the amber list is prohibited unless the notification and consent requirements of paragraph (b)(1) or paragraph (b)(2) of this section are met.

(1) Transactions requiring specific consent:

(i) Notification. At least 45 days prior to commencement of the transfrontier movement, the notifier must provide written notification in English of the proposed transfrontier movement to the Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, with the words AAttention: OECD Export Notification@ prominently displayed on the envelope. This notification must include all of the information identified in paragraph (e) of this section. In cases where wastes having similar physical and chemical characteristics, the same United Nations classification, and the same RCRA waste codes are to be sent periodically to the same recovery facility by the same notifier, the notifier may submit one notification of intent to export these wastes in multiple shipments during a period of up to one year.

(ii) Tacit consent. If no objection has been lodged by any concerned country (i.e., exporting, importing, or transit countries) to a notification provided pursuant to paragraph (b)(1)(i) of this section within 30 days after the date of issuance of the Acknowledgment of Receipt of notification by the competent authority of the importing country, the transfrontier movement may commence. Tacit consent expires one calendar year after the close of the 30 day period; renotification and renewal of all consents is required for exports after that date.

(iii) Written consent. If the competent authorities of all the relevant OECD importing and transit countries provide written consent in a period less than 30 days, the transfrontier movement may commence immediately after all necessary consents are received. Written consent expires for each relevant OECD importing and transit country one calendar year after the date of that country's consent unless otherwise specified; renotification and renewal of each expired consent is required for exports after that date.

(2) Shipments to facilities preapproved by the competent authorities of the importing countries to accept specific wastes for recovery:

(i) The notifier must provide EPA the information identified in paragraph (e) of this section in English, at least 10 days in advance of commencing shipment to a preapproved facility. The notification should indicate that the recovery facility is preapproved, and may apply to a single specific shipment or to multiple shipments as described in paragraph (b)(1)(i) of this section. This information must be sent to the Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, with the words AOECD Export Notification Preapproved Facility@ prominently displayed on the envelope.

(ii) Shipments may commence after the notification required in paragraph (b)(1)(i) of this section has been received by the competent authorities of all concerned countries, unless the notifier has received information indicating that the competent authorities of one or more concerned countries objects to the shipment.

(c) Redlist wastes. The export from the U.S. of hazardous wastes as described in 262.80(a) that appear on the red list is prohibited unless notice is given pursuant to paragraph (b)(1)(i) of this section and the notifier receives written consent from the importing country and any transit countries prior to commencement of the transfrontier movement.

(d) Unlisted wastes. Wastes not assigned to the green, amber, or red list that are considered hazardous under U.S. national procedures as defined in 262.80(a) are subject to the notification and consent requirements established for redlist wastes in accordance with paragraph (c) of this section. Unlisted wastes that are not considered hazardous under U.S. national procedures as defined in 262.80(a) are not subject to amber or red controls when exported or imported.

(e) Notification information. Notifications submitted under this section must include:

(1) Serial number or other accepted identifier of the notification form;

(2) Notifier name and EPA identification number (if applicable), address, and telephone and telefax numbers;

(3) Importing recovery facility name, address, telephone and telefax numbers, and technologies employed;

(4) Consignee name (if not the owner or operator of the recovery facility) address, and telephone and telefax numbers; whether the consignee will engage in waste exchange or storage prior to delivering the waste to the final recovery facility and identification of recovery operations to be employed at the final recovery facility;

(5) Intended transporters and/or their agents;

(6) Country of export and relevant competent authority, and point of departure;

(7) Countries of transit and relevant competent authorities and points of entry and departure;

(8) Country of import and relevant competent authority, and point of entry;

(9) Statement of whether the notification is a single notification or a general notification. If general, include period of validity requested;

(10) Date foreseen for commencement of transfrontier movement;

(11) Designation of waste type(s) from the appropriate list (amber or red and waste list code), descriptions of each waste type, estimated total quantity of each, RCRA waste code, and United Nations number for each waste type; and

(12) Certification/Declaration signed by the notifier that states:

I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally enforceable written contractual obligations have been entered into, and that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement.

Name:_____

Signature:_____ Date:_____

Note to paragraph (e)(12): The U.S. does not currently require financial assurance; however, U.S. exporters may be asked by other governments to provide and certify to such assurance as a condition of obtaining consent to a proposed movement.

262.84 Tracking document.

(a) All U.S. parties subject to the contract provisions of 262.85 must ensure that a tracking document meeting the conditions of 262.84(b) accompanies each transfrontier shipment of wastes subject to amberlist or redlist controls from the initiation of the shipment until it reaches the final recovery facility, including cases in which the waste is stored and/or exchanged by the consignee prior to shipment to the final recovery facility, except as provided in 262.84(a)(1) and (2). (9/98)

(1) For shipments of hazardous waste within the U.S. solely by water (bulk shipments only) the generator must forward the tracking document with the manifest to the last water (bulk shipment) transporter to handle the waste in the U.S. if exported by water, (in accordance with the manifest routing procedures at 262.23(c).

(2) For rail shipments of hazardous waste within the U.S. which originate at the site of generation, the generator must forward the tracking document with the manifest (in accordance with the routing procedures for the manifest in 262.23(d)) to the next nonrail transporter, if any, or the last rail transporter to handle the waste in the U.S. if exported by rail.

(b) The tracking document must include all information required under 262.83 (for notification), and the following:

(1) Date shipment commenced.

(2) Name (if not notifier), address, and telephone and telefax numbers of primary exporter.

(3) Company name and EPA ID number of all transporters.

(4) Identification (license, registered name or registration number) of means of transport, including types of packaging.

(5) Any special precautions to be taken by transporters.

(6) Certification/declaration signed by notifier that no objection to the shipment has been lodged as follows: I certify that the above information is complete and correct to the best of my knowledge. I also certify that legally enforceable written contractual obligations have been entered into, that any applicable insurance or other financial guarantees are or shall be in force covering the transfrontier movement, and that:

1. All necessary consents have been received; or

2. The shipment is directed at a recovery facility within the OECD area and no objection has been received from any of the concerned countries within the 30 day tacit consent period; or

3. The shipment is directed at a recovery facility preauthorized for that type of waste within the OECD area; such an authorization has not been revoked, and no objection has been received from any of the concerned countries.(delete sentences that are not applicable)

Name:_____

Signature:_____ Date:_____

(7) Appropriate signatures for each custody transfer (e.g. transporter, consignee, and owner or operator of the recovery facility).

(c) Notifiers also must comply with the special manifest requirements of 262.54(a), (b), (c), (e), and (i)

and consignees must comply with the import requirements of 262, subpart F.

(d) Each U.S. person that has physical custody of the waste from the time the movement commences until it arrives at the recovery facility must sign the tracking document (e.g. transporter, consignee, and owner or operator of the recovery facility).

(e) Within three working days of the receipt of imports subject to this Subpart, the owner or operator of the U.S. recovery facility must send signed copies of the tracking document to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to the competent authorities of the exporting and transit countries.

262.85 Contracts.

(a) Transfrontier movements of hazardous wastes subject to amber or red control procedures are prohibited unless they occur under the terms of a valid written contract, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Such contracts or equivalent arrangements must be executed by the notifier and the owner or operator of the recovery facility, and must specify responsibilities for each. Contracts or equivalent arrangements are valid for the purposes of this section only if persons assuming obligations under the contracts or equivalent arrangements have appropriate legal status to conduct the operations specified in the contract or equivalent arrangement. (9/98)

(b) Contracts or equivalent arrangements must specify the name and EPA ID number, where available, of:

(1) The generator of each type of waste;

(2) Each person who will have physical custody of the wastes;

(3) Each person who will have legal control of the wastes; and

(4) The recovery facility.

(c) Contracts or equivalent arrangements must specify which party to the contract will assume responsibility for alternate management of the wastes if its disposition cannot be carried out as described in the notification of intent to export. In such cases, contracts must specify that:

(1) The person having actual possession or physical control over the wastes will immediately inform the notifier and the competent authorities of the exporting and importing countries and, if the wastes are located in a country of transit, the competent authorities of that country; and

(2) The person specified in the contract will assume responsibility for the adequate management of the wastes in compliance with applicable laws and regulations including, if necessary, arranging their return to the original country of export.

(d) Contracts must specify that the consignee will provide the notification required in 262.82(c) prior to reexport of controlled wastes to a third country.

(e) Contracts or equivalent arrangements must include provisions for financial guarantees, if required by the competent authorities of any concerned country, in accordance with applicable national or international law requirements.

Note to paragraph (e): Financial guarantees so required are intended to provide for alternate recycling, disposal or other means of sound management of the wastes in cases where arrangements for the shipment and the recovery operations cannot be carried out as foreseen. The U.S. does not require such financial guarantees at this time; however, some OECD countries do. It is the responsibility of the notifier to ascertain and comply with such requirements; in some cases, transporters or consignees may refuse to enter into the necessary contracts absent specific references or certifications to financial guarantees.

(f) Contracts or equivalent arrangements must contain provisions requiring each contracting party to comply with all applicable requirements of this subpart.

(g) Upon request by EPA, U.S. notifiers, consignees, or recovery facilities must submit to EPA copies of contracts, chain of contracts, or equivalent arrangements (when the movement occurs between parties controlled by the same corporate or legal entity). Information contained in the contracts or equivalent arrangements for which a claim of confidentiality is asserted accordance with 30-4-10 *et seq.* and 40 CFR 2.203(b) will be treated as confidential and will be disclosed only as provided in 260.2.

Note to paragraph (g): Although the U.S. does not require routine submission of contracts at this time, OECD Council Decision C(92)39/FINAL allows members to impose such requirements. When other OECD countries require submission of partial or complete copies of the contract as a condition to granting consent to proposed movements, EPA will request the required information; absent submission of such information, some OECD countries may deny consent for the proposed movement.

262.86 Provisions relating to recognized traders

(a) A recognized trader who takes physical custody of a waste and conducts recovery operations (including storage prior to recovery) is acting as the owner or operator of a recovery facility and must be so authorized in accordance with all applicable State and federal laws. (9/98)

(b) A recognized trader acting as a notifier or consignee for transfrontier shipments of waste must

comply with all the requirements of this Subpart associated with being a notifier or consignee.

262.87 Reporting and recordkeeping

(a) Annual reports. For all waste movements subject to this Subpart, persons (e.g., notifiers, recognized traders) who meet the definition of primary exporter in 262.51 shall file an annual report with the Office of Enforcement and Compliance Assurance, Office of Federal Activities, International Compliance Assurance Division (2254A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, no later than March 1 of each year summarizing the types, quantities, frequency, and ultimate destination of all such hazardous waste exported during the previous calendar year. (If the primary exporter is required to file an annual report for waste exports that are not covered under this Subpart, he may include all export information in one report provided the following information on exports of waste destined for recovery within the designated OECD member countries is contained in a separate section). Such reports shall include the following: (9/98)

(1) The EPA identification number, name, and mailing and site address of the notifier filing the report;

(2) The calendar year covered by the report;

(3) The name and site address of each final recovery facility;

(4) By final recovery facility, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from part 261, subpart C or D), designation of waste type(s) from OECD waste list and applicable waste code from the OECD lists, DOT hazard class, the name and U.S. EPA identification number (where applicable) for each transporter used, the total amount of hazardous waste shipped pursuant to this Subpart, and number of shipments pursuant to each notification;

(5) In even numbered years, for each hazardous waste exported, except for hazardous waste produced by exporters of greater than 100 kg but less than 1000 kg in a calendar month, and except for hazardous waste for which information was already provided pursuant to 262.41:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of the waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984; and

(6) A certification signed by the person acting as primary exporter that states: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(b) Exception reports. Any person who meets the definition of primary exporter in 262.51 must file an exception report in lieu of the requirements of 262.42 with the Department if any of the following occurs:

(1) He has not received a copy of the tracking documentation signed by the transporter stating point of departure of the waste from the United States, within forty-five (45) days from the date it was accepted by the initial transporter;

(2) Within ninety (90) days from the date the waste was accepted by the initial transporter, the notifier has not received written confirmation from the recovery facility that the hazardous waste was received;

(3) The waste is returned to the United States.

(c) Recordkeeping.

(1) Persons who meet the definition of primary exporter in 262.51 shall keep the following records:

(i) A copy of each notification of intent to export and all written consents obtained from the competent authorities of concerned countries for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(ii) A copy of each annual report for a period of at least three years from the due date of the report; and

(iii) A copy of any exception reports and a copy of each confirmation of delivery (i.e., tracking documentation) sent by the recovery facility to the notifier for at least three years from the date the hazardous waste was accepted by the initial transporter or received by the recovery facility, whichever is applicable.

(2) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

262.88 Preapproval for U.S. Recovery Facilities

[Reserved 9/98]

262.89 OECD Waste Lists

(a) General. For the purposes of this Subpart, a waste is considered hazardous under U.S. national procedures, and hence subject to this Subpart, if the waste: (9/98)

(1) Meets the Federal definition of hazardous waste in 261.3; and

(2) Is subject to either the Federal RCRA manifesting requirements at 262, subpart B, to the universal waste management standards of 273.

(b) If a waste is hazardous under paragraph (a) of this section and it appears on the amber or red list, it is subject to amber or redlist requirements respectively;

(c) If a waste is hazardous under paragraph (a) of this section and it does not appear on either amber or red lists, it is subject to redlist requirements.

(d) The appropriate control procedures for hazardous wastes and hazardous waste mixtures are addressed in 262.82.

(e) The OECD Green List of Wastes (revised May 1994), Amber List of Wastes and Red List of Wastes (both revised May 1993) as set forth in Appendix 3, Appendix 4 and Appendix 5, respectively, to the OECD Council Decision C(92)39/FINAL (Concerning the Control of Transfrontier Movements of Wastes Destined for Recovery Operations) are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 on July 11, 1996. These materials are incorporated as they exist on the date of the approval and a notice of any change in these materials will be published in the Federal Register. The materials are available for inspection at: the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC; the U.S. Environmental Protection Agency, RCRA Information Center (RIC), 1235 Jefferson Davis Highway, first floor, Arlington, VA 22203 (Docket # F-94-IEHF-FFFFF) and may be obtained from the Organisation for Economic Cooperation and Development, Environment Directorate, 2 rue Andre Pascal, 75775 Paris Cedex 16, France.

Subpart I - Hazardous Waste Discharge Reporting

262.90 Discharge clean up

A generator must clean up any hazardous waste discharge that occurs during generation or processing or storage and take such other action as may be required or approved by Federal, State or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment. See also 262.34(a)(4) and 265 Subpart D. (5/98, 9/98)

SUBPART J [Reserved]

SUBPART K - Alternative Requirements for Hazardous Waste Determination and Accumulation of Unwanted Material for Laboratories Owned by Eligible Academic Entities

262.200. Definitions.

"Central accumulation area" means an on-site hazardous waste accumulation area subject to either 262.34(a) of this part (large quantity generators); or 262.34(d)-(f) of this part (small quantity generators). A central accumulation area at an eligible academic entity that chooses to be subject to this subpart must also comply with 262.211 when accumulating unwanted material and/or hazardous waste.

"College/University" means a private or public, post-secondary, degree-granting, academic institution, that is accredited by an accrediting agency listed annually by the U.S. Department of Education

"Eligible academic entity" means a college or university, or a non-profit research institute that is owned by or has a formal written affiliation agreement with a college or university, or a teaching hospital that is owned by or has a formal written affiliation agreement with a college or university.

"Formal written affiliation agreement" for a non-profit research institute means a written document that establishes a relationship between institutions for the purposes of research and/or education and is signed by authorized representatives, as defined by 260.10, from each institution. A relationship on a project-by-project or grant-by-grant basis is not considered a formal written affiliation agreement. A formal written affiliation agreement for a teaching hospital means a master affiliation agreement and program letter of agreement, as defined by the Accreditation Council for Graduate Medical Education, with an accredited medical program or medical school.

"Laboratory" means an area owned by an eligible academic entity where relatively small quantities of chemicals and other substances are used on a non-production basis for teaching or research (or diagnostic purposes at a teaching hospital) and are stored and used in containers that are easily manipulated by one person. Photo laboratories, art studios, and field laboratories are considered laboratories. Areas such as chemical stockrooms and preparatory laboratories that provide a support function to teaching or research laboratories (or diagnostic laboratories at teaching hospitals) are also considered laboratories.

"Laboratory clean-out" means an evaluation of the inventory of chemicals and other materials in a laboratory that are no longer needed or that have expired and the subsequent removal of those chemicals or other unwanted materials from the laboratory. A clean-out may occur for several reasons. It may be on a routine basis (e.g., at the end of a semester or academic year) or as a result of a renovation, relocation, or change in laboratory supervisor/occupant. A regularly scheduled removal of unwanted material as required by 262.208 does not qualify as a laboratory clean-out.

"Laboratory worker" means a person who handles chemicals and/or unwanted material in a laboratory and may include, but is not limited to, faculty, staff, post-doctoral fellows, interns, researchers, technicians, supervisors/managers, and principal investigators. A person does not need to be paid or otherwise compensated for his/her work in the laboratory to be considered a laboratory worker. Undergraduate and

graduate students in a supervised classroom setting are not laboratory workers.

"Non-profit research institute" means an organization that conducts research as its primary function and files as a non-profit organization under the tax code of 26 U.S.C. 501(c)(3).

"Reactive acutely hazardous unwanted material" means an unwanted material that is one of the acutely hazardous commercial chemical products listed in 261.33(e) for reactivity.

"Teaching hospital" means a hospital that trains students to become physicians, nurses or other health or laboratory personnel.

"Trained professional" means a person who has completed the applicable RCRA training requirements of 265.16 for large quantity generators, or is knowledgeable about normal operations and emergencies in accordance with 262.34(d)(5)(iii) for small quantity generators and conditionally exempt small quantity generators. A trained professional may be an employee of the eligible academic entity or may be a contractor or vendor who meets the requisite training requirements.

"Unwanted material" means any chemical, mixtures of chemicals, products of experiments or other material from a laboratory that is no longer needed, wanted or usable in the laboratory and that is destined for hazardous waste determination by a trained professional. Unwanted materials include reactive acutely hazardous unwanted materials and materials that may eventually be determined not to be solid waste pursuant to 261.2, or a hazardous waste pursuant to 261.3. If an eligible academic entity elects to use another equally effective term in lieu of "unwanted material," as allowed by 262.206(a)(1)(i), the equally effective term has the same meaning and is subject to the same requirements as "unwanted material" under this subpart.

"Working container" means a small container (i.e., two gallons or less) that is in use at a laboratory bench, hood, or other work station, to collect unwanted material from a laboratory experiment or procedure. (3/12)

262.201. Applicability of this subpart.

(a) Large quantity generators and small quantity generators This subpart provides alternative requirements to the requirements in 262.11 and 262.34(c) for the hazardous waste determination and accumulation of hazardous waste in laboratories owned by eligible academic entities that choose to be subject to this subpart, provided that they complete the notification requirements of 262.203. (3/12)

(b) Conditionally exempt small quantity generators. This subpart provides alternative requirements to the conditional exemption in 261.5(b) for the accumulation of hazardous waste in laboratories owned by eligible academic entities that choose to be subject to this subpart, provided that they complete the notification requirements of 262.203. (3/12)

262.202. This subpart is optional.

(a) Large quantity generators and small quantity generators: Eligible academic entities have the option of complying with this subpart with respect to its laboratories, as an alternative to complying with the requirements of 262.11 and 262.34(c). (3/12)

(b) Conditionally exempt small quantity generators. Eligible academic entities have the option of complying with this subpart with respect to its laboratories, as an alternative to complying with the conditional exemption of 261.5(b). (3/12)

262.203. How an eligible academic entity indicates it will be subject to the requirements of this subpart.

(a) An eligible academic entity must notify the Department in writing, using Department's Notification and Reporting Form (DHEC Form 2701). (3/12)

(b) When submitting the Notification and Reporting Form, the eligible academic entity must, at a minimum, fill out the following fields on the form:

(1) Reason for Submittal.

(2) Site EPA Identification Number (except for conditionally exempt small quantity generators).

(3) Site Name.

(4) Site Location Information.

(5) Site Land Type.

(6) North American Industry Classification System (NAICS) Code(s) for the Site.

(7) Site Mailing Address.

(8) Site Contact Person.

(9) Operator and Legal Owner of the Site.

(10) Type of Regulated Waste Activity.

(11) Certification.

(c) An eligible academic entity must keep a copy of the notification on file at the eligible academic entity for as long as its laboratories are subject to this subpart.

(d) A teaching hospital that is not owned by a college or university must keep a copy of its formal written affiliation agreement with a college or university on file at the teaching hospital for as long as its laboratories are subject to this subpart.

(e) A non-profit research institute that is not owned by a college or university must keep a copy of its formal written affiliation agreement with a college or university on file at the non-profit research institute for as long as its laboratories are subject to this subpart.

262.204. How an eligible academic entity indicates it will withdraw from the requirements of this subpart.

(a) An eligible academic entity must notify the Department in writing, using the Department's Notification and Reporting Form (DHEC Form 2701), that it is electing to no longer be subject to the

requirements of this subpart for all the laboratories owned by the eligible academic entity under the same EPA Identification Number and that it will comply with the requirements of 262.11 and 262.34(c) for small quantity generators and large quantity generators. An eligible academic entity that is a conditionally exempt small quantity generator and does not have an EPA identification number must notify that it is withdrawing from the requirements of this subpart for all the laboratories owned by the eligible academic entity that are on-site and that it will comply with the conditional exemption in 261.5(b). An eligible academic entity must submit a separate notification (Site Identification Form) for each EPA Identification Number (or site, for conditionally exempt small quantity generators) that is withdrawing from the requirements of the subpart and must submit the Site Identification Form before it begins operating under the requirements of 262.11 and 262.34(c) for small quantity generators and large quantity generators, or 261.5(b) for conditionally exempt small quantity generators. (3/12)

(b) When submitting the Notification and Reporting Form, the eligible academic entity must, at a minimum, fill out the following fields on the form:

(1) Reason for Submittal.

(2) Site EPA Identification Number (except for conditionally exempt small quantity generators).

(3) Site Name.

(4) Site Location Information.

(5) Site Land Type.

(6) North American Industry Classification System (NAICS) Code(s) for the Site.

(7) Site Mailing Address.

(8) Site Contact Person.

(9) Operator and Legal Owner of the Site.

(10) Type of Regulated Waste Activity.

(11) Certification.

(c) An eligible academic entity must keep a copy of the withdrawal notice on file at the eligible academic entity for three years from the date of the notification.

262.205. Summary of the requirements of this subpart.

An eligible academic entity that chooses to be subject to this subpart is not required to have interim status or a RCRA Part B permit for the accumulation of unwanted material and hazardous waste in its laboratories, provided the laboratories comply with the provisions of this subpart and the eligible academic entity has a Laboratory Management Plan (LMP) in accordance with 262.214 that describes how the laboratories owned by the eligible academic entity will comply with the requirements of this subpart. (3/12)

262.206. Labeling and Management Standards for Containers of Unwanted Material in the Laboratory.

An eligible academic entity must manage containers of unwanted material while in the laboratory in accordance with the requirements in this section. (3/12)

(a) Labeling: Label unwanted material as follows:

(1) The following information must be affixed or attached to the container:

(i) The words ”unwanted material” or another equally effective term that is to be used consistently by the eligible academic entity and that is identified in Part I of the Laboratory Management Plan, and

(ii) Sufficient information to alert emergency responders to the contents of the container. Examples of information that would be sufficient to alert emergency responders to the contents of the container include, but are not limited to:

(A) The name of the chemical(s)

(B) The type or class of chemical, such as organic solvents or halogenated organic solvents

(2) The following information may be affixed or attached to the container, but must at a minimum be associated with the container:

(i) The date that the unwanted material first began accumulating in the container, and

(ii) Information sufficient to allow a trained professional to properly identify whether an unwanted material is a solid and hazardous waste and to assign the proper hazardous waste code(s), pursuant to 262.11. Examples of information that would allow a trained professional to properly identify whether an unwanted material is a solid or hazardous waste include, but are not limited to:

(A) The name and/or description of the chemical contents or composition of the unwanted material, or, if known, the product of the chemical reaction,

(B) Whether the unwanted material has been used or is unused,

(C) description of the manner in which the chemical was produced or processed, if applicable.

(b) An eligible academic entity must properly manage containers of unwanted material in the laboratory to assure safe storage of the unwanted material, to prevent leaks, spills, emissions to the air, adverse chemical reactions, and dangerous situations that may result in harm to human health or the environment. Proper container management must include the following:

(1) Containers are maintained and kept in good condition and damaged containers are replaced, overpacked, or repaired, and

(2) Containers are compatible with their contents to avoid reactions between the contents and the container; and are made of, or lined with, material that

is compatible with the unwanted material so that the container's integrity is not impaired, and

(3) Containers must be kept closed at all times, except:

(i) When adding, removing or consolidating unwanted material, or

(ii) A working container may be open until the end of the procedure or work shift, or until it is full, whichever comes first, at which time the working container must either be closed or the contents emptied into a separate container that is then closed, or

(iii) When venting of a container is necessary

(A) For the proper operation of laboratory equipment, such as with in-line collection of unwanted materials from high performance liquid chromatographs, or

(B) To prevent dangerous situations, such as build-up of extreme pressure.

262.207. Training.

An eligible academic entity must provide training to all individuals working in a laboratory at the eligible academic entity, as follows: (3/12)

(a) Training for laboratory workers and students must be commensurate with their duties so they understand the requirements in this subpart and can implement them.

(b) An eligible academic entity can provide training for laboratory workers and students in a variety of ways, including, but not limited to:

(1) Instruction by the professor or laboratory manager before or during an experiment; or

(2) Formal classroom training; or

(3) Electronic/written training; or

(4) On-the-job training; or

(5) Written or oral exams.

(c) An eligible academic entity that is a large quantity generator must maintain documentation for the durations specified in 265.16(e) demonstrating training for all laboratory workers that is sufficient to determine whether laboratory workers have been trained. Examples of documentation demonstrating training can include, but are not limited to, the following:

(1) Sign-in/attendance sheet(s) for training session(s); or

(2) Syllabus for training session; or

(3) Certificate of training completion; or

(4) Test results.

(d) A trained professional must:

(1) accompany the transfer of unwanted material and hazardous waste when the unwanted material and hazardous waste is removed from the laboratory, and

(2) make the hazardous waste determination, pursuant to 262.11, for unwanted material.

262.208. Removing containers of unwanted material from the laboratory.

(a) Removing containers of unwanted material on a regular schedule. An eligible academic entity must either: (3/12)

(1) Remove all containers of unwanted material from each laboratory on a regular interval, not to exceed 6 months; or

(2) Remove containers of unwanted material from each laboratory within 6 months of each container’s accumulation start date.

(b) The eligible academic entity must specify in Part I of its Laboratory Management Plan whether it will comply with paragraph (a)(1) or (a)(2) of this section for the regular removal of unwanted material from its laboratories.

(c) The eligible academic entity must specify in Part II of its Laboratory Management Plan how it will comply with paragraph (a)(1) or (a)(2) of this section and develop a schedule for regular removals of unwanted material from its laboratories.

(d) Removing containers of unwanted material when volumes are exceeded.

(1) If a laboratory accumulates a total volume of unwanted material (including reactive acutely hazardous unwanted material) in excess of 55 gallons before the regularly scheduled removal, the eligible academic entity must ensure that all containers of unwanted material in the laboratory (including reactive acutely hazardous unwanted material):

(i) Are marked on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) with the date that 55 gallons is exceeded; and

(ii) Are removed from the laboratory within 10 calendar days of the date that 55 gallons was exceeded, or at the next regularly scheduled removal, whichever comes first.

(2) If a laboratory accumulates more than 1 quart of reactive acutely hazardous unwanted material before the regularly scheduled removal, then the eligible academic entity must ensure that all containers of reactive acutely hazardous unwanted material:

(i) Are marked on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) with the date that 1 quart is exceeded; and

(ii) Are removed from the laboratory within 10 calendar days of the date that 1 quart was exceeded, or at the next regularly scheduled removal, whichever comes first.

262.209. Where and when to make the hazardous waste determination and where to send containers of unwanted material upon removal from the laboratory.

(a) Large quantity generators and small quantity generators - an eligible academic entity must ensure that a trained professional makes a hazardous waste determination, pursuant to 262.11, for unwanted material in any of the following areas: (3/12)

(1) In the laboratory before the unwanted material is removed from the laboratory, in accordance with 262.210;

(2) Within 4 calendar days of arriving at an on-site central accumulation area, in accordance with 262.211; and within 4 calendar days of arriving at an on-site interim status or permitted treatment, storage or disposal facility, in accordance with 262.212.

(3) Within 4 calendar days of arriving at an on-site interim status or permitted treatment, storage or disposal facility, in accordance with 262.212

(b) Conditionally exempt small quantity generators – an eligible academic entity must ensure that a trained professional makes a hazardous waste determination, pursuant to 262.11, for unwanted material in the laboratory before the unwanted material is removed from the laboratory, in accordance with 262.210.

262.210. Making the hazardous waste determination in the laboratory before the unwanted material is removed from the laboratory.

If an eligible academic entity makes the hazardous waste determination, pursuant to 262.11, for unwanted material in the laboratory, it must comply with the following: (3/12)

(a) A trained professional must make the hazardous waste determination, pursuant to 262.11, before the unwanted material is removed from the laboratory.

(b) If an unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words “hazardous waste” on the container label that is affixed or attached to the container, before the hazardous waste may be removed from the laboratory; and

(2) Write the appropriate hazardous waste codes(s) on the label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) before the hazardous waste is transported off-site.

(3) Count the hazardous waste toward the eligible academic entity's generator status, pursuant to 261.5(c) and (d), in the calendar month that the hazardous waste determination was made.

(c) A trained professional must accompany all hazardous waste that is transferred from the laboratory(ies) to an on-site central accumulation area or on-site interim status or permitted treatment, storage or disposal facility.

(d) When hazardous waste is removed from the laboratory.

(1) Large quantity generators and small quantity generators must ensure it is taken directly from the laboratory(ies) to an on-site central accumulation area, or on-site interim status or permitted treatment, storage or disposal facility, or transported off-site.

(2) Conditionally exempt small quantity generators must ensure it is taken directly from the laboratory(ies) to any of the types of facilities listed in 261.5(f)(3) for acute hazardous waste, or 261.5(g)(3) for hazardous waste

(e) An unwanted material that is a hazardous waste is subject to all applicable hazardous waste regulations when it is removed from the laboratory.

262.211. Making the hazardous waste determination at an on-site central accumulation area.

If an eligible academic entity makes the hazardous waste determination, pursuant to 262.11, for unwanted material at an on-site central accumulation area, it must comply with the following: (3/12)

(a) A trained professional must accompany all unwanted material that is transferred from the laboratory(ies) to an on-site central accumulation area.

(b) All unwanted material removed from the laboratory(ies) must be taken directly from the laboratory(ies) to the on-site central accumulation area

(c) The unwanted material becomes subject to the generator accumulation regulations of 262.34(a) for large quantity generators or 262.34(d)-(f) for small quantity generators as soon as it arrives in the central accumulation area, except for the “hazardous waste” labeling requirements of 262.34(a)(3)

(d) A trained professional must determine, pursuant to 262.11, if the unwanted material is a hazardous waste within 4 calendar days of the unwanted materials’ arrival at the on-site central accumulation area.

(e) If the unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words ”hazardous waste” on the container label that is affixed or attached to the container, within 4 calendar days of arriving at the on-site central accumulation area and before the hazardous waste may be removed from the on-site central accumulation area, and

(2) Write the appropriate hazardous waste code(s) on the container label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) before the hazardous waste may be treated or disposed of on-site or transported off-site, and

(3) Count the hazardous waste toward the eligible academic entity's generator status, pursuant to 261.5(c) and (d) in the calendar month that the hazardous waste determination was made, and

(4) Manage the hazardous waste according to all applicable hazardous waste regulations.

262.212. Making the hazardous waste determination at an on-site interim status or permitted treatment, storage or disposal facility.

If an eligible academic entity makes the hazardous waste determination, pursuant to 262.11, for unwanted material at an on-site interim status or permitted treatment, storage or disposal facility, it must comply with the following: (3/12)

(a) A trained professional must accompany all unwanted material that is transferred from the laboratory(ies) to an on-site interim status or permitted treatment, storage or disposal facility.

(b) All unwanted material removed from the laboratory(ies) must be taken directly from the laboratory(ies) to the on-site interim status or permitted treatment, storage or disposal facility.

(c) The unwanted material becomes subject to the terms of the eligible academic entity's hazardous waste permit or interim status as soon as it arrives in the on-site treatment, storage or disposal facility.

(d) A trained professional must determine, pursuant to 262.11, if the unwanted material is a hazardous waste within 4 calendar days of the unwanted materials' arrival at an on-site interim status or permitted treatment, storage or disposal facility.

(e) If the unwanted material is a hazardous waste, the eligible academic entity must:

(1) Write the words "hazardous waste" on the container label that is affixed or attached to the container (or on the label that is affixed or attached to the container, if that is preferred) within 4 calendar days of arriving at the on-site interim status or permitted treatment, storage or disposal facility and before the hazardous waste may be removed from the on-site interim status or permitted treatment, storage or disposal facility, and

(2) Write the appropriate hazardous waste code(s) on the container label that is associated with the container (or on the label that is affixed or attached to the container, if that is preferred) before the hazardous waste may be treated or disposed on-site or transported off-site, and

(3) Count the hazardous waste toward the eligible academic entity's generator status, pursuant to 261.5(c) and (d) in the calendar month that the hazardous waste determination was made, and

(4) Manage the hazardous waste according to all applicable hazardous waste regulations

262.213. Laboratory clean-outs.

(a) One time per 12 month period for each laboratory, an eligible academic entity may opt to conduct a laboratory clean-out that is subject to all the applicable requirements of this subpart, except that: (3/12)

(1) If the volume of unwanted material in the laboratory exceeds 55 gallons (or 1 quart of reactive acutely hazardous unwanted material), the eligible academic entity is not required to remove all unwanted materials from the laboratory within 10 calendar days of exceeding 55 gallons (or 1 quart of reactive acutely hazardous unwanted material), as required by 262.208. Instead, the eligible academic entity must remove all unwanted materials from the laboratory within 30 calendar days from the start of the laboratory clean-out; and

(2) For the purposes of on-site accumulation, an eligible academic entity is not required to count a hazardous waste that is an unused commercial chemical product (listed in part 261, subpart D or exhibiting one or more characteristics in part 261, subpart C) generated solely during the laboratory clean-out toward its hazardous waste generator status, pursuant to 261.5(c) and (d). An unwanted material that is generated prior to the beginning of the laboratory clean-out and is still in the laboratory at the time the laboratory clean-out commences must be counted toward hazardous waste generator status, pursuant to 261.5(c) and (d), if it is determined to be hazardous waste; and

(3) For the purposes of off-site management, an eligible academic entity must count all its hazardous waste, regardless of whether the hazardous waste was counted toward generator status under paragraph (a)(2) of this section, and if it generates more than 1 kg/month of acute hazardous waste or more than 100 kg/month of hazardous waste (i.e., the conditionally exempt small quantity generator limits of 261.5), the hazardous waste is subject to all applicable hazardous waste regulations when it is transported off-site; and

(4) An eligible academic entity must document the activities of the laboratory clean-out. The documentation must, at a minimum, identify the laboratory being cleaned out, the date the laboratory clean-out begins and ends, and the volume of hazardous waste generated during the laboratory clean-out. The eligible academic entity must maintain the records for a period of three years from the date the clean-out ends; and

(b) For all other laboratory clean-outs conducted during the same 12-month period, an eligible academic entity is subject to all the applicable requirements of this subpart, including, but not limited to:

(1) The requirement to remove all unwanted materials from the laboratory within 10 calendar days of exceeding 55 gallons (or 1 quart of reactive acutely hazardous unwanted material), as required by 262.208; and

(2) The requirement to count all hazardous waste, including unused hazardous waste, generated during the

laboratory clean-out toward its hazardous waste generator status, pursuant to 261.5(c) and (d).

262.214. Laboratory management plans.

An eligible academic entity must develop and retain a written Laboratory Management Plan, or revise an existing written plan. The Laboratory Management Plan must contain two parts with a total of nine elements identified in paragraphs (a) and (b) of this section. In Part I of its Laboratory Management Plan, an eligible academic entity must describe its procedures for each of the elements listed in paragraph (a) of this section. An eligible academic entity must implement and comply with the specific provisions that it develops to address the elements in Part I of the Laboratory Management Plan. In Part II of its Laboratory Management Plan, an eligible academic entity must describe its best management practices for each of the elements listed in paragraph (b) of this section. (3/12)

(a) The eligible academic entity must implement and comply with the specific provisions of Part I of its Laboratory Management Plan. In Part I of its Laboratory Management Plan, an eligible academic entity must:

(1) Describe procedures for container labeling in accordance with 262.206(a), including:

(i) Identifying whether the eligible academic entity will use the term “unwanted material” on the containers in the laboratory. If not, identify an equally effective term that will be used in lieu of “unwanted material” and consistently by the eligible academic entity. The equally effective term, if used, has the same meaning and is subject to the same requirements as “unwanted material.”

(ii) Identifying the manner in which information that is “associated with the container” will be imparted.

(2) Identify whether the eligible academic entity will comply with 262.208(a)(1) or (a)(2) for regularly scheduled removals of unwanted material from the laboratory.

(b) In Part II of its Laboratory Management Plan, an eligible academic entity must:

(1) Describe its intended best practices for container labeling and management, including how the eligible academic entity will manage containers used for in-line collection of unwanted materials, such as with high performance liquid chromatographs and other laboratory equipment (see the required standards at 262.206).

(2) Describe its intended best practices for providing training for laboratory workers and students commensurate with their duties (see the required standards at 262.207(a)).

(3) Describe its intended best practices for providing training to ensure safe on-site transfers of unwanted material and hazardous waste by trained professionals (see the required standards at 262.207(d)(1)).

(4) Describe its intended best practices for removing unwanted material from the laboratory, including:

(i) For regularly scheduled removals - Develop a regular schedule for identifying and removing unwanted materials from its laboratories (see the required standards at 262.208(a)(1) and (a)(2)).

(ii) For removals when maximum volumes are exceeded:

(A) Describe its intended best practices for removing unwanted materials from the laboratory within 10 calendar days when unwanted materials have exceeded their maximum volumes (see the required standards at 262.208(d)).

(B) Describe its intended best practices for communicating that unwanted materials have exceeded their maximum volumes.

(5) Describe its intended best practices for making hazardous waste determinations, including specifying the duties of the individuals involved in the process (see the required standards at 262.11 and 262.209 through 262.212).

(6) Describe its intended best practices for laboratory clean-outs, if the eligible academic entity plans to use the incentives for laboratory clean-outs provided in 262.213, including:

(i) Procedures for conducting laboratory clean-outs (see the required standards at 262.213(a)(1) through (3)); and

(ii) Procedures for documenting laboratory clean-outs (see the required standards at 262.213(a)(4)).

(7) Describe its intended best practices for emergency prevention, including:

(i) Procedures for emergency prevention, notification, and response, appropriate to the hazards in the laboratory; and

(ii) A list of chemicals that the eligible academic entity has, or is likely to have, that become more dangerous when they exceed their expiration date and/or as they degrade; and

(iii) Procedures to safely dispose of chemicals that become more dangerous when they exceed their expiration date and/or as they degrade; and

(iv) Procedures for the timely characterization of unknown chemicals.

(c) An eligible academic entity must make its Laboratory Management Plan available to laboratory workers, students, or any others at the eligible academic entity who request it.

(d) An eligible academic entity must review and revise its Laboratory Management Plan, as needed.

262.215. Unwanted material that is not solid or hazardous waste.

(a) If an unwanted material does not meet the definition of solid waste in 261.2, it is no longer subject to this subpart or to the RCRA hazardous waste regulations. (3/12)

(b) If an unwanted material does not meet the definition of hazardous waste in 261.3, it is no longer subject to this subpart or to the RCRA hazardous waste regulations, but must be managed in compliance with any other applicable regulations and/or conditions.

262.216. Non-laboratory hazardous waste generated at an eligible academic entity.

An eligible academic entity that generates hazardous waste outside of a laboratory is not eligible to manage that hazardous waste under this subpart; and (3/12)

(a) Remains subject to the generator requirements of 262.11 and 262.34(c) for large quantity generators and small quantity generators (if the hazardous waste is managed in a satellite accumulation area), and all other applicable generator requirements of part 262, with respect to that hazardous waste; or

(b) Remains subject to the conditional exemption of 261.5(b) for conditionally exempt small quantity generators, with respect to that hazardous waste.

Appendix to 262 - Manifest Forms

Use new federal manifest and instructions per 70 FR 10776 published Friday March 4, 2005 in the *Federal Register. See also http://www.scdhec.gov/lwm/pubs/hwmanifest.pdf, which includes South Carolina codes, or http://www.epa.gov/epaoswer/hazwaste/gener/manifest/mods.htm or http://yosemite.epa.gov/osw/rcra.nsf/topics!OpenView&Start=1&Count=1000&Expand=60#60 for background and printing specifications. (2/07)*

APPENDIX TO PART 262—UNIFORM HAZARDOUS WASTE MANIFEST AND INSTRUCTIONS (EPA FORMS 8700-22 AND 8700-22A AND THEIR INSTRUCTIONS)

U.S. EPA Form 8700-22

Read all instructions before completing this form.

1. This form has been designed for use on a 12-pitch (elite) typewriter which is also compatible with standard computer printers; a firm point pen may also be used—press down hard.

2. Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to complete this form (FORM 8700-22) and, if necessary, the continuation sheet (FORM 8700-22A) for both inter- and intrastate transportation of hazardous waste.

[Please see PDF for image: ER16JN05.012] Manifest 8700-22

I. Instructions for Generators

Manifest 8700-22

The following statement must be included with each Uniform Hazardous Waste Manifest, either on the form, in the instructions to the form, or accompanying the form:

Public reporting burden for this collection of information is estimated to average: 30 minutes for generators, 10 minutes for transporters, and 25 minutes for owners or operators of treatment, storage, and disposal facilities. This includes time for reviewing instructions, gathering data, completing, reviewing and transmitting the form. Send comments regarding the burden estimate, including suggestions for reducing this burden to: Chief, Information Policy Branch (2136), U.S. Environmental Protection Agency Ariel Rios Building; 1200 Pennsylvania Ave., NW., Washington, DC 20460. ; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington , DC 20503.

I. Instructions for Generators

Item 1. Generator's U.S. EPA Identification Number

Enter the generator's U.S. EPA twelve digit identification number, or the state generator identification number if the generator site does not have an EPA identification number.

Item 2. Page 1 of _

Enter the total number of pages used to complete this Manifest (i.e., the first page (EPA Form 8700-22) plus the number of Continuation Sheets (EPA Form 8700-22A), if any.

Item 3. Emergency Response Phone Number

Enter a phone number for which emergency response information can be obtained in the event of an incident during transportation. The emergency response phone number must:

1. Be the number of the generator or the number of an agency or organization who is capable of and accepts

responsibility for providing detailed information about the shipment;

2. Reach a phone that is monitored 24 hours a day at all times the waste is in transportation (including transportation related storage); and

3. Reach someone who is either knowledgeable of the hazardous waste being shipped and has comprehensive emergency response and spill cleanup/incident mitigation information for the material being shipped or has immediate access to a person who has that knowledge and information about the shipment.

Note: Emergency Response phone number information should only be entered in Item 3 when there is one phone number that applies to all the waste materials described in Item 9b. If a situation (e.g., consolidated shipments) arises where more than one Emergency Response phone number applies to the various wastes listed on the manifest, the phone numbers associated with each specific material should be entered after its description in Item 9b.

Item 4. Manifest Tracking Number

This unique tracking number must be pre-printed on the manifest by the forms printer.

Item 5. Generator's Mailing Address, Phone Number and Site Address

Enter the name of the generator, the mailing address to which the completed manifest signed by the designated facility should be mailed, and the generator's telephone number. Note, the telephone number (including area code) should be the normal business number for the generator, or the number where the generator or his authorized agent may be reached to provide instructions in the event the designated and/or alternate (if any) facility rejects some or all of the shipment. Also enter the physical site address from which the shipment originates only if this address is different than the mailing address.

Item 6. Transporter 1 Company Name, and U.S. EPA ID Number

Enter the company name and U.S. EPA ID number of the first transporter who will transport the waste. Vehicle or driver information may not be entered here.

Item 7. Transporter 2 Company Name and U.S. EPA ID Number

If applicable, enter the company name and U.S. EPA ID number of the second transporter who will transport the waste. Vehicle or driver information may not be entered here.

If more than two transporters are needed, use a Continuation Sheet(s) (EPA Form 8700-22A).

Item 8. Designated Facility Name, Site Address, and U.S. EPA ID Number

Enter the company name and site address of the facility designated to receive the waste listed on this manifest. Also enter the facility's phone number and the U.S. EPA twelve digit identification number of the facility.

Item 9. U.S. DOT Description (Including Proper Shipping Name, Hazard Class or Division, Identification Number, and Packing Group)

Item 9a. If the wastes identified in Item 9b consist of both hazardous and nonhazardous materials, then identify the hazardous materials by entering an “X” in this Item next to the corresponding hazardous material identified in Item 9b.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Item 9b. Enter the U.S. DOT Proper Shipping Name, Hazard Class or Division, Identification Number (UN/NA) and Packing Group for each waste as identified in 49 CFR 172. Include technical name(s) and reportable quantity references, if applicable.

Note: If additional space is needed for waste descriptions, enter these additional descriptions in Item 27 on the Continuation Sheet (EPA Form 8700-22A). Also, if more than one Emergency Response phone number applies to the various wastes described in either Item 9b or Item 27, enter applicable Emergency Response phone numbers immediately following the shipping descriptions for those Items.

Item 10. Containers (Number and Type)

Enter the number of containers for each waste and the appropriate abbreviation from Table I (below) for the type of container.

Table I—Types of Containers

BA = Burlap, cloth, paper, or plastic bags.
CF = Fiber or plastic boxes, cartons, cases.
CM = Metal boxes, cartons, cases (including roll-offs).

CW = Wooden boxes, cartons, cases.
CY = Cylinders.
DF = Fiberboard or plastic drums, barrels, kegs.
DM = Metal drums, barrels, kegs.
DT = Dump truck.
DW = Wooden drums, barrels, kegs.
HG = Hopper or gondola cars.
TC = Tank cars.
TP = Portable tanks.
TT = Cargo tanks (tank trucks).

Item 11. Total Quantity

Enter, in designated boxes, the total quantity of waste. Round partial units to the nearest whole unit, and do not enter decimals or fractions. To the extent practical, report quantities using appropriate units of measure that will allow you to report quantities with precision. Waste quantities entered should be based on actual measurements or reasonably accurate estimates of actual quantities shipped. Container capacities are not acceptable as estimates.

Item 12. Units of Measure (Weight/Volume)

Enter, in designated boxes, the appropriate abbreviation from Table II (below) for the unit of measure.

Table II—Units of Measure

G = Gallons (liquids only).
K = Kilograms.
L = Liters (liquids only).
M = Metric Tons (1000 kilograms).
N = Cubic Meters.
P = Pounds.
T = Tons (2000 pounds).
Y = Cubic Yards.

Note: Tons, Metric Tons, Cubic Meters, and Cubic Yards should only be reported in connection with very large bulk shipments, such as rail cars, tank trucks, or barges.

Item 13. Waste Codes

Enter up to six federal and state waste codes to describe each waste stream identified in Item 9b. State waste codes that are not redundant with federal codes must be entered here, in addition to the federal waste codes which are most representative of the properties of the waste.

Item 14. Special Handling Instructions and Additional Information.

1. Generators may enter any special handling or shipment-specific information necessary for the proper management or tracking of the materials under the generator's or other handler's business processes, such as waste profile numbers, container codes, bar codes, or response guide numbers. Generators also may use this space to enter additional descriptive information about their shipped materials, such as chemical names, constituent percentages, physical state, or specific gravity of wastes identified with volume units in Item 12.

2. This space may be used to record limited types of federally required information for which there is no specific space provided on the manifest, including any alternate facility designations; the manifest tracking number of the original manifest for rejected wastes and residues that are re-shipped under a second manifest; and the specification of PCB waste descriptions and PCB out-of-service dates required under 40 CFR 761.207. Generators, however, cannot be required to enter information in this space to meet state regulatory requirements.

Item 15. Generator's/Offeror's Certifications

1. The generator must read, sign, and date the waste minimization certification statement. In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements. The Generator's Certification also contains the required attestation that the shipment has been properly prepared and is in proper condition for transportation (the shipper's certification). The content of the shipper's certification statement is as follows: “I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked, and labeled/placarded, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.” When a party other than the generator prepares the shipment for transportation, this party may also sign the shipper's certification statement as the offeror of the shipment.

2. Generator or Offeror personnel may preprint the words, “On behalf of” in the signature block or may hand write this statement in the signature block prior to signing the generator/offeror certification, to indicate

that the individual signs as the employee or agent of the named principal.
Note: All of the above information except the handwritten signature required in Item 15 may be pre-printed,

II. Instructions for International Shipment Block

Item 16. International Shipments

For export shipments, the primary exporter must check the export box, and enter the point of exit (city and state) from the United States. For import shipments, the importer must check the import box and enter the point of entry (city and state) into the United States. For exports, the transporter must sign and date the manifest to indicate the day the shipment left the United States. Transporters of hazardous waste shipments must deliver a copy of the manifest to the U.S. Customs when exporting the waste across U.S. borders.

III. Instructions for Transporters

Item 17. Transporters' Acknowledgments of Receipt

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt. Only one signature per transportation company is required. Signatures are not required to track the movement of wastes in and out of transfer facilities, unless there is a change of custody between transporters.

If applicable, enter the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the manifest by signing and entering the date of receipt.

Note: Transporters carrying imports, who are acting as importers, may have responsibilities to enter information in the International Shipments Block. Transporters carrying exports may also have responsibilities to enter information in the International Shipments Block. See above instructions for Item 16.

IV. Instructions for Owners and Operators of Treatment, Storage, and Disposal Facilities

Item 18. Discrepancy

Item 18a. Discrepancy Indication Space

1. The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any discrepancies between the waste described on the Manifest and the waste actually received at the facility. Manifest discrepancies are: significant differences (as defined by 264.72(b) and 265.72(b)) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives, rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept, or container residues, which are residues that exceed the quantity limits for “empty” containers set forth in 40 CFR 261.7(b).

2. For rejected loads and residues (40 CFR 264.72(d), (e), and (f), or 40 CFR 265.72(d), (e), or (f)), check the appropriate box if the shipment is a rejected load (i.e., rejected by the designated and/or alternate facility and is sent to an alternate facility or returned to the generator) or a regulated residue that cannot be removed from a container. Enter the reason for the rejection or the inability to remove the residue and a description of the waste. Also, reference the manifest tracking number for any additional manifests being used to track the rejected waste or residue shipment on the original manifest. Indicate the original manifest tracking number in Item 14, the Special Handling Block and Additional Information Block of the additional manifests.

3. Owners or operators of facilities located in unauthorized states (i.e., states in which the U.S. EPA administers the hazardous waste management program) who cannot resolve significant differences in quantity or type within 15 days of receiving the waste must submit to their Regional Administrator a letter with a copy of the Manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72(c) and 265.72(c)).

4. Owners or operators of facilities located in authorized states (i.e., those states that have received authorization from the U.S. EPA to administer the hazardous waste management program) should contact their state agency for information on where to report discrepancies involving “significant differences” to state officials.

Item 18b. Alternate Facility (or Generator) for Receipt of Full Load Rejections

Enter the name, address, phone number, and EPA Identification Number of the Alternate Facility which the rejecting TSDF has designated, after consulting with the generator, to receive a fully rejected waste shipment. In the event that a fully rejected shipment is being returned to the generator, the rejecting TSDF may enter the generator's site information in this space. This

field is not to be used to forward partially rejected loads or residue waste shipments.

Item 18c. Alternate Facility (or Generator) Signature

The authorized representative of the alternate facility (or the generator in the event of a returned shipment) must sign and date this field of the form to acknowledge receipt of the fully rejected wastes or residues identified by the initial TSDF.

Item 19. Hazardous Waste Report Management Method Codes

Enter the most appropriate Hazardous Waste Report Management Method code for each waste listed in Item 9. The Hazardous Waste Report Management Method code is to be entered by the first treatment, storage, or disposal facility (TSDF) that receives the waste and is the code that best describes the way in which the waste is to be managed when received by the TSDF.

Item 20. Designated Facility Owner or Operator Certification of Receipt (Except As Noted in Item 18a)

Enter the name of the person receiving the waste on behalf of the owner or operator of the facility. That person must acknowledge receipt or rejection of the waste described on the Manifest by signing and entering the date of receipt or rejection where indicated. Since the Facility Certification acknowledges receipt of the waste except as noted in the Discrepancy Space in Item 18a, the certification should be signed for both waste receipt and waste rejection, with the rejection being noted and described in the space provided in Item 18a. Fully rejected wastes may be forwarded or returned using Item 18b after consultation with the generator. Enter the name of the person accepting the waste on behalf of the owner or operator of the alternate facility or the original generator. That person must acknowledge receipt or rejection of the waste described on the Manifest by signing and entering the date they received or rejected the waste in Item 18c. Partially rejected wastes and residues must be re-shipped under a new manifest, to be initiated and signed by the rejecting TSDF as offeror of the shipment.

Manifest Continuation Sheet

[Please see PDF for image: ER16JN05.013]
Instructions—Continuation Sheet, U.S. EPA Form 8700-22A

Instructions - Continuation Sheet, U.S. EPA Form 8700-22A

Read all instructions before completing this form. This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

This form must be used as a continuation sheet to U.S. EPA Form 8700-22 if:

• More than two transporters are to be used to transport the waste; or

• More space is required for the U.S. DOT descriptions and related information in Item 9 of U.S. EPA Form 8700-22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the uniform hazardous waste manifest (EPA Form 8700-22) and, if necessary, this continuation sheet (EPA Form 8700-22A) for both interstate and intrastate transportation.

Item 21. Generator's ID Number

Enter the generator's U.S. EPA twelve digit identification number or, the state generator identification number if the generator site does not have an EPA identification number.

Item 22. Page _—

Enter the page number of this Continuation Sheet.

Item 23. Manifest Tracking Number

Enter the Manifest Tracking number from Item 4 of the Manifest form to which this continuation sheet is attached.

Item 24. Generator's Name—

Enter the generator's name as it appears in Item 5 on the first page of the Manifest.

Item 25. Transporter—Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 3 Company Name. Also enter the U.S. EPA twelve digit identification number of the transporter described in Item 25.

Item 26. Transporter—Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word “Transporter” the order of the transporter. For example, Transporter 4 Company Name. Each Continuation Sheet can record the names of two additional transporters. Also enter the U.S. EPA twelve digit identification number of the transporter named in Item 26.

Item 27. U.S. D.O.T. Description Including Proper Shipping Name, Hazardous Class, and ID Number (UN/NA)

For each row enter a sequential number under Item 27b that corresponds to the order of waste codes from one continuation sheet to the next, to reflect the total number of wastes being shipped. Refer to instructions for Item 9 of the manifest for the information to be entered.

Item 28. Containers (No. And Type)

Refer to the instructions for Item 10 of the manifest for information to be entered.

Item 29. Total Quantity

Refer to the instructions for Item 11 of the manifest form.

Item 30. Units of Measure (Weight/Volume)

Refer to the instructions for Item 12 of the manifest form.

Item 31. Waste Codes

Refer to the instructions for Item 13 of the manifest form.

Item 32. Special Handling Instructions and Additional Information

Refer to the instructions for Item 14 of the manifest form.

Transporters

Item 33. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 25. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 25. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 34. Transporter—Acknowledgment of Receipt of Materials

Enter the same number of the Transporter as identified in Item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in Item 26. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Owner and Operators of Treatment, Storage, or Disposal Facilities

Item 35. Discrepancy Indication Space

Refer to Item 18. This space may be used to more fully describe information on discrepancies identified in Item 18a of the manifest form.

Item 36. Hazardous Waste Report Management Method Codes

For each field here, enter the sequential number that corresponds to the waste materials described under Item 27, and enter the appropriate process code that describes how the materials will be processed when received. If additional continuation sheets are attached, continue numbering the waste materials and process code fields sequentially, and enter on each sheet the process codes corresponding to the waste materials identified on that sheet.

[45 FR 33142, May 19, 1980, as amended at 70 FR 10818, Mar. 4, 2005]

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263 - Standards Applicable to Transporters of Hazardous Waste

Subpart A - General

263.10 Scope

(a) These regulations establish standards which apply to persons transporting hazardous waste within the State.

(b) These regulations do not apply to onsite transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(c) A transporter of hazardous waste must also comply with R.61-79.262 Standards Applicable to Generators of Hazardous Waste, if he:

(1) Transports hazardous waste into the United States from abroad; or

(2) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

(3) Spills hazardous waste during transportation and generates additional waste subsequent to cleanup as required under Section 263.30. The treatment, storage, and disposal of any additional waste must be in accordance with 263.21. (6/95)

(d) A transporter of hazardous waste subject to the federal manifesting requirements of 262, or subject to the waste management standards of 273, or subject to state requirements analogous to 273, that is being imported from or exported to any of the countries listed in 262.58(a)(1) for purposes of recovery is subject to this subpart and to all other relevant requirements of subpart H of part 262, including, but not limited to, 262.84 for movement documents.

(e) The regulations in this part do not apply to transportation during an explosives or munitions emergency response, conducted in accordance with 264.1(g)(8)(i)(D) or (iv) or 265.1(c)(11)(i)(D) or (iv), and 270.1(c)(3)(i)(D) or (iii). (9/98)

(f) Section 266.203 of this chapter identifies how the requirements of this part apply to military munitions classified as solid waste under 266.202. (9/98)

(g) Every person transporting a hazardous waste within the State must be permitted by the Department except as specifically exempted in paragraph (b).

(h) Every transporter shall insure that all equipment, such as tankers, vans, dumpsters, and roll-off containers, are leakproof and properly secured prior to their being used for transporting hazardous waste within the state.

(i) Every person who is permitted as a transporter shall ensure that personnel have completed a training program that is acceptable to the Department.

263.11 EPA Identification number

(a) A transporter must not transport hazardous wastes without having received an EPA identification number from the Department. (12/92)

(b) A transporter who has not received an identification number may obtain one by submitting the Notification Form required under Section 263.13. Upon receipt, the Department will assign an identification number to the transporter.

263.12 Transfer facility requirements

A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of R.61-79.262.30 at a transfer facility for a period of ten days or less is not subject to regulation under R.61-79.270, R.61-79.264, R.61-79.265 and R.61-79.268 with respect to the storage of those wastes. (11/90)

263.13 Notification

(a) Any person who transports hazardous waste within the State and has not previously done so shall

file with the Department a Notification Form for that activity within thirty (30) days after the effective date of this regulation.

(b) Any person who transports or accepts for transportation within the State a hazardous waste which is classified or listed for the first time by a revision of R.61-79.261 shall file with the Department a revised or new Notification Form for that waste within ninety (90) days after the effective date of such revision.

(c) This notification shall be on a form designed by the Department and shall be completed as required by the instructions supplied with such form. The information to be furnished on the form shall include but not be limited to the location and general description of such activity and the identified or listed hazardous wastes handled by such person.

263.14 Financial responsibility for sudden and accidental occurrences

(a) Except as provided in paragraph (b), a transporter of hazardous waste granted a transporter permit under R.61-79.270 shall have and maintain financial responsibility for sudden and accidental occurrences in the amount of at least one million dollars ($1,000,000) per occurrence exclusive of legal defense costs. Coverage must provide for claims arising out of injury to persons, property or the environment including the spillage of hazardous wastes while such wastes are being transported and including the costs of cleaning up the spill. Such liability coverage must be maintained at all times while the permit is in force.

(b) [Reserved 5/93]

(c) The financial responsibility required in paragraph (a) may be established by any one or a combination of the following: (12/93)

(1) Evidence of liability insurance, either on a claim made or an occurrence basis, with or without a deductible with the deductible, if any, to be on a per occurrence or per accident basis and not to exceed ten (10) percent of the equity of the permittee;

(2) Self insurance, the level of which shall not exceed ten (10) percent of equity of the permittee; or

(3) Other evidence of financial responsibility approved by the Department.

263.15 [Reserved 6/95]

Subpart B - Compliance With The Manifest System And Recordkeeping

263.20 The manifest system

(a) (1) *Manifest requirement* A transporter may not accept hazardous waste from a generator unless the transporter is also provided with a manifest signed in accordance with the provisions of R.61-79.262, subpart B

(2) *Exports*. In the case of exports other than those subject to subpart H of 262, a transporter may not accept such waste from a primary exporter or other person if he knows the shipment does not conform to the EPA Acknowledgment of Consent; and unless, in addition to a manifest signed by the generator as provided in this section, the transporter shall also be provided with an EPA Acknowledgment of Consent which, except for shipments by rail, is attached to the manifest (or shipping paper for exports by water [bulk shipment]). For exports of hazardous waste subject to the requirements of subpart H of 262, a transporter may not accept hazardous waste without a tracking document that includes all information required by 262.84. (12/92, 12/93, 9/98, 2/07)

(3) *Compliance Date for Form Revisions*. The revised Manifest form and procedures in 260.10, 261.7, 263.20, and 263.21, shall not apply until September 5, 2006. The Manifest form and procedures in 260.10, 261.7, 263.20, and 263.21, contained in 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006. (12/92, 12/93, 9/98, 2/07)

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste. In the case of exports, the transporter must ensure that a copy of the EPA Acknowledgment of Consent also accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(1) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(2) Retain one copy of the manifest in accordance with Section 263.22; and

(3) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraphs (c), (d) and (f) of this section do not apply to water (bulk shipment) transporters if:

(1) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(2) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste; and

(3) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(4) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk

shipment) transporter on the manifest and forwards it to the designated facility; and

(5) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with Section 263.22.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d) and (e) do not apply and the following requirements do apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the non-rail transporter;

(iii) Forward at least three copies of the manifest to:

(A) The next non-rail transporter, if any; or,

(B) The designated facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States; (12/92)

(iv) Retain one copy of the manifest and rail shipping paper in accordance with 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports an EPA Acknowledgment of Consent accompanies the hazardous waste at all times. (11/90)

Note: Intermediate rail transporters are not required to sign either the manifest or shipping paper. (12/92)

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with Section 263.22.

(4) When delivering hazardous waste to a non-rail transporter a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with Section 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must: (12/93)

(1) Sign and date the manifest in the International Shipments block to indicate the date that the shipment left the United States;

(2) Retain one copy in accordance with 263.22(d);

(3) Return a signed copy of the manifest to the generator; and

(4) Give a copy of the manifest to a U.S. Customs official at the point of departure from the United States.

(h) A transporter transporting hazardous waste from a generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month need not comply with the requirements of this section or those of 263.22 provided that: (added 12/96)

(1) The waste is being transported pursuant to a reclamation agreement as provided for in 262.20(e);

(2) The transporter records, on a log or shipping paper, the following information for each shipment:

(i) The name, address, and U.S. EPA Identification Number of the generator of the waste;

(ii) The quantity of waste accepted;

(iii) All DOT-required shipping information;

(iv) The date the waste is accepted; and

(3) The transporter carries this record when transporting waste to the reclamation facility; and

(4) The transporter retains these records for a period of at least three years after termination or expiration of the agreement.

263.21 Compliance with the manifest

(a) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

(1) The designated facility listed on the manifest; or

(2) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or

(3) The next designated transporter; or

(4) The place outside the United States designated by the generator.

(b) (1) If the hazardous waste cannot be delivered in accordance with paragraph (a) of this section because of an emergency condition other than rejection of the waste by the designated facility, then the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

(2) If hazardous waste is rejected by the designated facility while the transporter is on the facility's premises, then the transporter must obtain the following:

(i) For a partial load rejection or for regulated quantities of container residues, a copy of the original manifest that includes the facility's date and signature, and the Manifest Tracking Number of the new manifest that will accompany the shipment, and a description of the partial rejection or container residue in the discrepancy block of the original manifest. The transporter must retain a copy of this manifest in accordance with 263.22, and give the remaining copies

of the original manifest to the rejecting designated facility. If the transporter is forwarding the rejected part of the shipment or a regulated container residue to an alternate facility or returning it to the generator, the transporter must obtain a new manifest to accompany the shipment, and the new manifest must include all of the information required in 264.72(e)(1) through (6) or (f)(1) through (6) or 265.72(e)(1) through (6) or (f)(1) through (6).

(ii) For a full load rejection that will be taken back by the transporter, a copy of the original manifest that includes the rejecting facility's signature and date attesting to the rejection, the description of the rejection in the discrepancy block of the manifest, and the name, address, phone number, and Identification Number for the alternate facility or generator to whom the shipment must be delivered. The transporter must retain a copy of the manifest in accordance with 263.22, and give a copy of the manifest containing this information to the rejecting designated facility. If the original manifest is not used, then the transporter must obtain a new manifest for the shipment and comply with 264.72(e)(1) through (6) or 265.72(e)(1) through (6).

263.22 Recordkeeping

(a) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(b) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter must retain a copy of the shipping paper containing all the information required in 263.20(e)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(c) For shipments of hazardous waste by rail within the United States:

(1) The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in 263.20(f)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter; and

(2) The final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

Note: Intermediate rail transporters are not required to keep records pursuant to these regulations. (12/92)

(d) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter. (11/90)

(e) The periods of retention referred to in this Section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department.

263.23 Treatment/storage by transporter

(a) If a transporter while in the State removes a hazardous waste from a transport vehicle for the purpose of blending, mixing, treating, or storing; the blending, mixing, treating, or storing shall be performed at a facility in the State having a permit under R.61-79.270.

(b) The transporter shall not allow hazardous wastes from different generators or separate wastes from the same generator to become mixed during transport, unless the transporter obtains prior written approval from the Department and complies with the generator standards under R.61-79.262, or can demonstrate that the information designated on the manifest(s) as required under R.61-79.262 Subpart B still identifies the hazardous waste.

263.24 [Reserved 5/93]

Subpart C - Hazardous Waste Discharges

263.30 Immediate action

(a) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify state and local authorities, dike the discharge area).

(b) If a discharge of hazardous waste occurs during transportation and an official (State or local government or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(c) An air, rail, highway, or water transporter who has discharged hazardous waste must:

(1) Give notice, if required by 49 CFR 171.15, to the National Response Center (800-424-8802 or 202-426-2675); and

(2) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

(3) Immediately telephone the Department's 24-hour emergency telephone number (803) 253-6488, giving all requested information.

(d) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

263.31 Discharge clean up

A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials so that the hazardous waste discharge no longer presents a hazard to human health or the environment.

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Part 264 - Standards for Owners & Operators of Hazardous Waste Treatment Storage and Disposal Facilities

Subpart A - General

264.1 Purpose, scope and applicability

(a) The purpose of this part is to establish minimum national standards which define the acceptable management of hazardous waste. (12/93)

(b) The standards in this part apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this part or in R.61-79.261.

(c) The requirements of this regulation apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included under R.61-79.270, in a permit under these regulations. (12/92; 12/93)

[Comment: These R.61-79.264 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.] (12/92; 12/93)

(d) The requirements of this regulation apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) Regulations R.61-87 only to the extent required by R.61-79.270.60(b) and 44-55-10 *et seq*. (12/92; 12/93)

[Comment: These R.61-79.264 regulations do apply to the aboveground treatment or storage of hazardous waste before it is injected underground.] (12/92; 12/93)

(e) The requirements of this regulation apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a RCRA permit by rule granted to such a person under part 270.

(f) [Reserved]

(g) The requirements of this regulation do not apply to:

(1) The owner or operator of a facility permitted, licensed, or registered by the Department to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under R.61-79.261.5; (12/93)

(2) The owner or operator of a facility managing recyclable materials described in R.61-79.261.6 (a)(2), (3), and (4) (except to the extent that requirements of this subpart are referred to in R.61-79.107.279 or subparts C, F, G, or H of part 266). (12/93, 6/06)

(3) A generator accumulating waste onsite in compliance with R.61-79.262.34;

(4) A farmer disposing of waste pesticides from his own use in compliance with R.61-79.262.70; or

(5) The owner or operator of a totally enclosed treatment facility, as defined in R.61-79.260.10;

(6) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in R.61-79.260.10, provided that if the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in 268.40, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in 264.17(b). (12/93; 5/96)

(7) [Reserved]

(8) (i) Except as provided in paragraph (g)(8)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 260.10. (9/98)

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of subparts C and D.

(iii) Any person who is covered by paragraph (g)(8)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this regulation and R.61-79.124 and R.61-79.270 for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have

EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition. (9/98)

(9) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of R.6-79.262.30 at a transfer facility for a period of ten days or less. (12/92)

(10) The addition of absorbent material to waste in a container (as defined in R.61-79.260.10) or the addition of waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 264.17(b), 264.171, and 264.172 are complied with.

(11) Universal waste handlers and universal waste transporters (as defined in R.61-79.260.10) handling the wastes listed below. These handlers are subject to regulation under R.61-79.273, when handling the below listed universal wastes. (5/96)

(i) Batteries as described in R.61-79.273.2;

(ii) Pesticides as described in R.61-79.273.3; and

(iii) Mercury containing equipment as described in 273.4; and (8/00, 6/07)

(iv) Lamps as described in 273.5. (8/00)

(h) The requirements of this part apply to owners or operators of all facilities which treat, store, or dispose of hazardous wastes referred to in part 268. (11/90)

(i) Section 266.205 of this chapter identifies when the requirements of this part apply to the storage of military munitions classified as solid waste under 266.202 of this chapter. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in 260 through 270. (9/98)

(j) The requirements of subparts B, C, and D of this part and 264.101 do not apply to remediation waste management sites. (However, some remediation waste management sites may be a part of a facility that is subject to a traditional RCRA permit because the facility is also treating, storing or disposing of hazardous wastes that are not remediation wastes. In these cases, Subparts B, C, and D of this part, and 264.101 do apply to the facility subject to the traditional RCRA permit.) Instead of the requirements of subparts B, C, and D of this part, owners or operators of remediation waste management sites must: (8/00)

(1) Obtain an EPA identification number by applying to the Department using EPA Form 8700-12;

(2) Obtain a detailed chemical and physical analysis of a representative sample of the hazardous remediation wastes to be managed at the site. At a minimum, the analysis must contain all of the information which must be known to treat, store or dispose of the waste according to this part and part 268 of this chapter, and must be kept accurate and up to date;

(3) Prevent people who are unaware of the danger from entering, and minimize the possibility for unauthorized people or livestock to enter onto the active portion of the remediation waste management site, unless the owner or operator can demonstrate to the Department that:

(i) Physical contact with the waste, structures, or equipment within the active portion of the remediation waste management site will not injure people or livestock who may enter the active portion of the remediation waste management site; and

(ii) Disturbance of the waste or equipment by people or livestock who enter onto the active portion of the remediation waste management site, will not cause a violation of the requirements of this part;

(4) Inspect the remediation waste management site for malfunctions, deterioration, operator errors, and discharges that may be causing, or may lead to, a release of hazardous waste constituents to the environment, or a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment, and must remedy the problem before it leads to a human health or environmental hazard. Where a hazard is imminent or has already occurred, the owner/operator must take remedial action immediately;

(5) Provide personnel with classroom or on-the-job training on how to perform their duties in a way that ensures the remediation waste management site complies with the requirements of this part, and on how to respond effectively to emergencies;

(6) Take precautions to prevent accidental ignition or reaction of ignitable or reactive waste, and prevent threats to human health and the environment from ignitable, reactive and incompatible waste;

(7) For remediation waste management sites subject to regulation under subparts I through O and subpart X of this part, the owner/operator must design, construct, operate, and maintain a unit within a 100-year floodplain to prevent washout of any hazardous waste by a 100-year flood, unless the owner/operator can meet the demonstration of 264.18(b);

(8) Not place any non-containerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave;

(9) Develop and maintain a construction quality assurance program for all surface impoundments, waste piles and landfill units that are required to comply with 264.221(c) and (d), 264.251(c) and (d), and 264.301(c) and (d) at the remediation waste management site, according to the requirements of 264.19;

(10) Develop and maintain procedures to prevent accidents and a contingency and emergency plan to control accidents that occur. These procedures

must address proper design, construction, maintenance, and operation of remediation waste management units at the site. The goal of the plan must be to minimize the possibility of, and the hazards from a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water that could threaten human health or the environment. The plan must explain specifically how to treat, store and dispose of the hazardous remediation waste in question, and must be implemented immediately whenever a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment;

(11) Designate at least one employee, either on the facility premises or on call (that is, available to respond to an emergency by reaching the facility quickly), to coordinate all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan;

(12) Develop, maintain and implement a plan to meet the requirements in paragraphs (j)(2) through (j)(6) and (j)(9) through (j)(10) of this section; and

(13) Maintain records documenting compliance with paragraphs (j)(1) through (j)(12) of this section.

264.2 [Reserved]

264.3 Relationship to interim status standards

A facility owner or operator who has fully complied with the requirements for interim status - as defined under R.61-79.270.70 and in section 3005(e) of RCRA - must comply with the regulations specified in R.61-79.265 in lieu of the regulations in this part, until final administrative disposition of his permit application is made, except as provided under R.61-79.264, subpart S. (12/92; 12/93)

[Comment: As stated in 44-56-60 and section 3005(a) of RCRA, after the effective date of regulations under that section, i.e., parts 270 and 124, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit under these regulations; the statutes. 44-56-60 and Section 3005(e) of RCRA provide for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.] (12/92; 12/93)

264.4 Imminent hazard action

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to Section 44-56-50 of the l976 South Carolina Code of Laws, as amended, and pursuant to section 7003 of RCRA. (12/92)

264.5 Notification requirements upon owners and operators of hazardous waste facilities

(a) Any person who owns or operates a facility within the State which treats, store, or disposed of a hazardous waste and has not previously done so shall file a completed Notification Form with the Department within thirty (30) days of the effective date of this regulation.

(b) Any person who plans to construct a new facility to treat, store or dispose of hazardous waste shall file a completed Notification Form with the Department as part of his permit application.

(c) This notification shall be on a form designated by the Department and shall be completed as required by the instructions supplied with such form.

(d) Any person who owns or operates a facility which treats, stores, or disposed of a hazardous waste which is classified or listed for the first time by a revision of R.61-79.261 and has not previously done so shall file a revised or new Notification Form for that waste within ninety (90) days after the effective date of such revision. The information to be furnished on the form shall include but not be limited to the location and general description of such activity, the identified or listed hazardous wastes handled by such person and, if applicable, a description of the production or energy recovery activity carried out at the facility and such other information as the Department deems necessary.

(e) Persons engaged in the following activities are required to make a separate notification:

(1) Producers of fuels from; identified or

(i) Any hazardous wastes listed in R.61-79.261;

(ii) Used oil; and

(iii) Used oil and any other material.

(2) Burners (other than a single or two-family residence) for purposes of energy recovery any fuel produced identified in paragraph 1.

(3) Distributors or marketers of any fuel as identified in paragraph 1.

Subpart B - General Facility Standards

264.10 Applicability

(a) The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as provided in 264.1 and in paragraph (b) of this section.

(b) Section 264.18(b) applies only to facilities subject to regulation under subparts I through O and subpart X of this part (11/90).

264.11 Identification number

(a) No owner or operator of a hazardous waste facility shall treat, store, or dispose of hazardous waste or accept for treatment, storage or disposal hazardous

waste without having received an EPA identification number.

(b) An owner or operator of a hazardous waste facility who has not previously received an EPA identification number may obtain one by submitting the Notification Form required under 264.5. Every facility owner or operator must apply for an EPA identification number in accordance with the notification procedures under 264.5. (12/92; 12/93)

264.12 Required notices

(a) (1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Department in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(2) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to part 262, subpart H must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460; and to the competent authorities of all other concerned countries within three working days of receipt of the shipment. The original of the signed tracking document must be maintained at the facility for at least three years. (9/98)

(b) The owner or operator of a facility that receives hazardous waste from an offsite source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) under these regulations for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record. (5/95, 6/97)

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the postclosure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and R.61-79.270.

[Comment: An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.] (12/92)

264.13 General waste analysis

(a) (1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this regulation or with the conditions of a permit issued under R.61-79.268, .270, Subparts A and B, and R.61-79.124. (11/90; 12/93)

(2) The analysis may include data developed under part 261, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.
[Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an offsite facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this section, except as otherwise specified in 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section. (12/92; 12/93)]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or nonhazardous wastes if applicable under 264.113(d), has changed; (11/90) and

(ii) For offsite facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an offsite facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper. (12/92)

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or nonhazardous waste if applicable under 264.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section; (11/90)

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in Appendix I of R.61-79.261; or

(ii) An equivalent sampling method.

[Comment: See 260.21 for related discussion.] (12/92)

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date; and (12/92)

(5) For offsite facilities, the waste analyses that hazardous waste generators have agreed to supply.

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 264.17, 264.314, 264.341, 264.1034(d), 264.1063(d), 264.1083, and 268.7. (12/92, 9/98)

(7) For surface impoundments exempted from land disposal restrictions under 268.4(a), the procedures and schedules for (11/90):

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under 260.22 or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of part 268, subpart D; or

(B) Where no treatment standards have been established:

(1) Such residues are prohibited from land disposal under 268.32 or RCRA section 3004(d); or

(2) Such residues are prohibited from land disposal under 268.33(f).

(8) For owners and operators seeking an exemption to the air emission standards of subpart CC in accordance with 264.1082: (9/98)

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For offsite facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe: (12/92)

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an offsite landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container. (12/93)

[Comment: R.61-79.270 requires that the waste analysis plan be submitted with Part B of the permit application.] (12/92)

264.14 Security

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless he can demonstrate to the Department that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

[Comment: R.61-79.270 requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application required under these regulations. (12/92; 12/93)

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2) (i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section. (12/92)

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (a)(2) of this section, a sign with the legend, "Danger -

Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous. (12/93)

[Comment: See 264.117(b) for discussion of security requirements at disposal facilities during the postclosure care period.]

264.15 General inspection requirements

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing - or may lead to-

(1) release of hazardous waste constituents to the environment or

(2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b) (1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in 264.174, 264.193, 264.195, 264.226, 264.254, 264.278, 264.303, 264.347, 264.602, 264.1033, 264.1052, 264.1053, 264.1058, and 264.1083 through 264.1089 where applicable. (12/92; 12/93, 9/98, 11/99, 6/08)

[Comment: Part 270 requires the inspection schedule to be submitted with Part B of the permit application. The Department will evaluate the schedule along with the rest of the application to ensure that it adequately protects human health and the environment. As part of this review, the Department may modify or amend the schedule as may be necessary. (12/92)]

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

264.16 Personnel training

(a) (1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

[Comment: Part 270 requires that owners and operators submit with Part B of the RCRA permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.] (12/92)

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to groundwater contamination incidents; and

(vi) Shutdown of operations.

(4) For facility employees that receive emergency response training pursuant to Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.120(p)(8) and 1910.120(q), the facility is not required to provide separate emergency response

training pursuant to this section, provided that the overall facility training meets all the requirements of this section. (6/04)

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

(f) R.61-79.270 Subpart B requires that owners and operator submit, with Part B of the permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.

264.17 General requirements for ignitable, reactive, or incompatible wastes

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste. (12/92)

(b) Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactions which:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility;

(5) Through other like means threaten human health or the environment.

(c) When required to comply with paragraph (a) or (b) of this section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in 264.13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

264.18 Location standards [See also R.61-104] (12/92)

(a) Seismic considerations.

(1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) of this section:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quaternary period, extending from the end of the Pleistocene to the present.

[Comment: Procedures for demonstrating compliance with this standard in Part B of the permit application are specified in R61-79.270.14(b)(11). Facilities which are located in political jurisdictions other than those listed in Appendix VI of this part, are assumed to be in compliance with this requirement.] (12/92; 12/93)

(b) Floodplains.

(1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood, unless the owner or operator can demonstrate to the Department satisfaction that:

(i) Procedures are in effect which will cause the waste to be removed safely, before flood waters can reach the facility, to a location where the wastes will not be vulnerable to flood waters; or

(ii) For existing surface impoundments, waste piles, land treatment units, landfills, and miscellaneous units, no adverse effects on human health or the environment will result if washout occurs, considering: (11/90)

(A) The volume and physical and chemical characteristics of the waste in the facility;

(B) The concentration of hazardous constituents that would potentially affect surface waters as a result of washout;

(C) The impact of such concentrations on the current or potential uses of and water quality standards established for the affected surface waters; and

(D) The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[Comment: The location where wastes are moved must be a facility which is either permitted under part 270 or in interim status under parts 270 and 265.] (12/92)

(2) As used in paragraph (b)(1) of this section:

(i) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) "100-year flood" means a flood that has a one percent chance of being equaled or exceeded in any given year.

[Comment: (1) Requirements pertaining to other laws which affect the location and permitting of facilities are found in 270.3 and R.61-104. For details relative to these laws, see also EPA's manual for SEA (special environmental area) requirements for hazardous waste facility permits. Applicants are advised to consider them in planning the location of a facility to help prevent subsequent project delays.] (12/92; 12/93)

(c) Salt dome formations, salt bed formations, underground mines and caves. The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited.

264.19 Construction quality assurance program

(a) CQA program.

(1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with 264.221 (c) and (d), 264.251 (c) and (d), and 264.301 (c) and (d). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) Written CQA plan. The owner or operator of units subject to the CQA program under paragraph (a) of this section must develop and implement a written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under 264.73.

(c) Contents of program.

(1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under 264.221, 264.251, and 264.301.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of 264.221(c)(1)(i)(B), 264.251(c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The Department may accept an alternative demonstration, in lieu of a test fill, where data are sufficient to show that a constructed soil liner will meet the hydraulic conductivity requirements of 264.221(c)(1)(i)(B), 264.251(c)(1)(i)(B), and 264.301(c)(1)(i)(B) in the field.

(d) Certification. Waste shall not be received in a unit subject to 264.19 until the owner or operator has submitted to the Department by certified mail or hand delivery a certification signed by the CQA officer that the approved CQA plan has been successfully carried out and that the unit meets the requirements of 264.221 (c) or (d), 264.251 (c) or (d), or 264.301 (c) or (d); and the procedure in 270.30(l)(2)(ii) has been completed. Documentation supporting the CQA officer's certification must be furnished to the Department upon request.

Subpart C - Preparedness And Prevention

264.30 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as 264.1 provides otherwise.

264.31 Design and operation of facility

Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

264.32 Required equipment

All facilities must be equipped with the following, unless it can be demonstrated to the Department that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

[Comment: Part 270 requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.] (12/92)

264.33 Testing and maintenance of equipment

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

264.34 Access to communications or alarm system

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the Department has ruled that such a device is not required under 264.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Department has ruled that such a device is not required under 264.32.

264.35 Required aisle space

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Department that aisle space is not needed for any of these purposes.

[Comment: Part 270 requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.] (12/92)

264.36 [Reserved]

264.37 Arrangements with local authorities

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the

layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subpart D - Contingency Plans And Emergency Procedures

264.50 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as 264.1 provides otherwise.

264.51 Purpose and implementation of contingency plan

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

264.52 Content of contingency plan

(a) The contingency plan must describe the actions facility personnel must take to comply with 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR part 112, or part 1510 of Chapter V, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance (''One Plan''). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification. (12/92, 6/08)

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to 264.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Department at the time of certification, rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

264.53 Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[Comment: The contingency plan must be submitted to the Department with Part B of the permit application under part 270 and, after modification or approval, will become a condition of any permit issued.] (12/92; 12/93)

264.54 Amendment of contingency plan

The contingency plan must be reviewed, and immediately amended, if necessary, whenever: (moved 11/90)

(a) The facility permit is revised;

(b) The plan fails in an emergency;

(c) The facility changes - in its design, construction, operation, maintenance, or other circumstances - in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

264.55 Emergency coordinator

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Comment: The emergency coordinator's responsibilities are more fully spelled out in 264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.] (12/92)

264.56 Emergency procedures

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water runoff from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify the Department (using its 24-hour number 803-253-6488) and the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under part 1510 of this title) and the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include: (12/92)

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing release waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion, or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[Comment: Unless the owner or operator can demonstrate, in accordance with R.61-79.261.3(c) or (d), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of R.61-79.262 Standards Applicable to Generators of Hazardous Waste, R.61-79.263 Standards Applicable to Transporters of Hazardous Waste and R.61-79.264. (11/90, 12/92)]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Department. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

Subpart E - Manifest System, Recordkeeping, and Reporting

264.70 Applicability

(a) The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, nor to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements under 266.203(a). Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

(b) The revised Manifest form and procedures in 260.10, 261.7, 264.70, 264.71. 264.72, and 264.76, shall not apply until September 5, 2006. The Manifest form and procedures in 260.10, 261.7, 264.70, 264.71. 264.72, and 264.76, contained in parts 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006. (2/07)

264.71 Use of manifest system

(a) (1) If a facility receives hazardous waste accompanied by a manifest, the owner, operator or his/her agent must sign and date the manifest as indicated in paragraph (a)(2) of this section to certify that the hazardous waste covered by the manifest was received, that the hazardous waste was received except as noted in the discrepancy space of the manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space.

(2) If a facility receives a hazardous waste shipment accompanied by a manifest, the owner, operator or his agent must:

(i) Sign and date, by hand, each copy of the manifest

(ii) Note any discrepancies (as defined in 264.72(a)) on each copy of the manifest;

(iii) Immediately give the transporter at least one copy of the manifest;

(iv) Within 30 days of delivery, send a copy of the manifest to the generator; and

(v) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(3) If a facility receives hazardous waste imported from a foreign source, the receiving facility must mail a copy of the manifest to the following address within 30 days of delivery: International Compliance Assurance Division, OFA/OECA (2254A), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460. (2/07)

(4) Within 30 days after the delivery, send a copy of the completed manifest to the generator; and (6/97)

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in 264.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

[Comment: The Department does not intend that the owner or operator of a facility whose procedures under 264.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.] (12/92)

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(b) (4) Within 30 days after the delivery, send a copy of the signed and dated manifest or a signed and dated copy of the shipping paper (if the manifest has not

been received within 30 days after delivery) to the generator; and (2/07)

[Comment: Section 262.23(c) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).] (12/92)

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of R.61-79.262.

[Comment: The provisions of R.61-79.262.34 are applicable to the onsite accumulation of hazardous wastes by generators. Therefore, the provisions of 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.] (12/92)

(d) Within three working days of the receipt of a shipment subject to 262, subpart H, the owner or operator of the facility must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to competent authorities of all other concerned countries. The original copy of the tracking document must be maintained at the facility for at least three years from the date of signature. (9/98)

(e) A facility must determine whether the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under its state hazardous waste program. Facilities must also determine whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states. (2/07)

264.72 Manifest discrepancies

(a) Manifest discrepancies are:

(1) Significant differences (as defined by paragraph (b) of this section) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;

(2) Rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or

(3) Container residues, which are residues that exceed the quantity limits for "empty" containers set forth in 261.7(b).(2/07)

(b) Significant differences in quantity are: For bulk waste, variations greater than 10 percent in weight; for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper. (2/07)

(c) Upon discovering a significant difference in quantity or type, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Regional Administrator a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(d) (1) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for "empty" containers set forth in 261.7(b), the facility must consult with the generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the facility may return the rejected waste or residue to the generator. The facility must send the waste to the alternative facility or to the generator within 60 days of the rejection of the container residue identification.

(2) While the facility is making arrangements for forwarding rejected wastes or residues to another facility under this section, it must ensure that either the delivering transporter retains custody of the waste, or, the facility must provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under paragraph (e) or (f) of this section.

(e) Except as provided in paragraph (e)(7) of this section, for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility is required to prepare a new manifest in accordance with 262.20(a) of this chapter and the following instructions:

(1) Write the generator's U.S. EPA ID number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space for Item 5.

(2) Write the name of the alternate designated facility and the facility's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment.

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.

(7) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility must retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (e)(1), (2), (3), (4), (5), and (6) of this section.

(f) Except as provided in paragraph (f)(7) of this section, for rejected wastes and residues that must be sent back to the generator, the facility is required to prepare a new manifest in accordance with 262.20(a) of this chapter and the following instructions:

(1) Write the facility's U.S. EPA ID number in Item 1 of the new manifest. Write the facility's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility's site address, then write the facility's site address in the designated space for Item 5 of the new manifest.

(2) Write the name of the initial generator and the generator's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment.

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation.

(7) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18a and 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility must retain a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (f)(1), (2), (3), (4), (5), (6) and (8) of this section.

(g) If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for "empty" containers set forth in 261.7(b) after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility must amend its copy of the manifest to indicate the rejected wastes or residues in the discrepancy space of the amended manifest. The facility must also copy the manifest tracking number from Item 4 of the new manifest to the Discrepancy space of the amended manifest, and must re-sign and date the manifest to certify to the information as amended. The facility must retain the amended manifest for at least three years from the date of amendment, and must within 30 days, send a copy of the amended manifest to the transporter and generator that received copies prior to their being amended. (2/07)

264.73 Operating record

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record for three years unless noted as follows: (6/08)

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I. This information must be maintained in the operating record until closure of the facility; (11/90)

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram that shows each cell or disposal area. For all facilities, this information must include cross references to manifest document numbers if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility. (6/08)

[Comment: See 264.119 for related requirements.] (11/90, 12/92)

(3) Records and results of waste analyses and waste determinations performed as specified in 264.13, 264.17, 264.314, 264.341, 264.1034, 264.1063, 264.1083, 268.4(a), and 268.7; (6/89, 12/92; 12/93, 9/98)

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in 264.56(j);

(5) Records and results of inspections as required by 264.15(d) (except these data need be kept only three years);

(6) Monitoring, testing or analytical data, and corrective action where required by subpart F and 264.19, 264.191, 264.193, 264.195, 264.222, 264.223, 264.226, 264.252–264.254, 264.276, 264.278, 264.280, 264.302–264.304, 264.309, 264.602, 264.1034(c)–264.1034(f), 264.1035, 264.1063(d)–264.1063(i), 264.1064, and 264.1082 through 264.1090 Maintain in the operating record for three years, except for records and results pertaining to ground-water monitoring and cleanup which must be maintained in the operating record until closure of the facility. (11/90; 12/92; 12/93, 9/98, 11/99, 6/08)

(7) For offsite facilities, notices to generators as specified in section 264.12(b); and

(8) All closure cost estimates under 264.142, and for disposal facilities, all postclosure cost estimates under 264.144. This information must be maintained in the operating record until closure of the facility. (11/90, 6/08).

(9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

(10) Records of the quantities and date of placement for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to 268.5, a petition pursuant to 268.6, or a certification under 268.8, and the applicable notice required by a generator under 268.7(a). This information must be maintained in the operating record until closure of the facility. (11/90, 6/08)

(11) For an offsite treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under 268.7 or 268.8; (11/90)

(12) For an onsite treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8; (11/90)

(13) For an offsite land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under 268.7 and 268.8, whichever is applicable; and (11/90)

(14) For an onsite land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under 268.7, except for the manifest number, and the certification and demonstration if applicable, required under 268.8, whichever is applicable. (11/90)

(15) For an offsite storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8; and (11/90)

(16) For an onsite storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8. (11/90)

(17) Any records required under 264.1(j)(13). (8/00)

(18) Monitoring, testing or analytical data where required by 264.347 must be maintained in the operating record for five years. (6/08)

(19) Certifications as required by 264.196(f) must be maintained in the operating record until closure of the facility.(6/08)

264.74 Availability, retention, and disposition of records

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Department.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Department.

(c) A copy of records of waste disposal locations and quantities under 264.73(b)(2) must be submitted to the Department and local land authority upon closure of the facility.

264.75 Quarterly report

(a) Each owner or operator of a hazardous waste facility shall, no later than thirty (30) days after the end of each calendar quarter, submit a written report to the Department including (12/92; 12/93)

(1) The types and quantities of hazardous waste generated giving the EPA hazardous waste number (from R.61-79.261 Subparts C or D) and the DOT hazardous class;

(2) The types and quantities of hazardous waste received at the facility during the reporting period;

(3) The types and quantities of hazardous wastes treated, stored, disposed of, and otherwise handled during the reporting period; (11/90)

(4) The EPA identification number, name, and address of the facility; and

(5) The calendar quarter covered by the report;

(6) For offsite facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(7) A description and the quantity of each hazardous waste the facility received during the year. For offsite facilities, this information must be listed by EPA identification number of each generator; and

(8) The most recent closure cost estimate under 264.142, and, for disposal facilities, the most recent postclosure cost estimate under 264.144; and

(9) Certification from any out-of-state generator who shipped waste to the facility during the reporting period that he has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined to be economically practicable and that the proposed method of handling the waste is that practicable method currently available which minimizes the present and future threat to human health and the environment;

(10) The method of treatment, storage, or disposal for each hazardous waste; and (moved 12/93)

(11) certification of information signed by the owner or operator of the facility or his authorized representative. (moved 11/90; 12/93)

(b) Each owner or operator shall submit the information required by paragraph (a) on a form designated by the Department and according to the instructions included with such form.

(c) Each owner or operator shall retain a copy of the report required in paragraphs (a) and (b) for a period of three (3) years.

264.76 Unmanifested waste report

(a) If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described by 263.20(e) of this chapter, and if the waste is not excluded from the manifest requirement by 261.5 of this chapter, then the owner or operator must prepare and submit a letter to the Agency within 15 days after receiving the waste. The unmanifested waste report must contain the following information:

(1) The EPA identification number, name and address of the facility;

(2) The date the facility received the waste;

(3) The EPA identification number, name and address of the generator and the transporter, if available;

(4) A description and the quantity of each unmanifested hazardous waste the facility received;

(5) The method of treatment, storage, or disposal for each hazardous waste;

(6) The certification signed by the owner or operator of the facility or his authorized representative; and,

(7) A brief explanation of why the waste was unmanifested, if known.

(b) [Reserved] (2/07)

(c) The EPA identification number, name, and address of the generator and the transporter, if available;

(d) A description and the quantity of each unmanifested hazardous waste and facility received; (12/93)

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) The certification signed by the owner or operator of the facility or his authorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[Comment: Small quantities of hazardous waste are excluded from this regulation and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Department requires that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Department requires that the owner or operator file an unmanifested waste report for the hazardous waste movement. (12/92)]

264.77 Additional reports

In addition to submitting the reports described in 264.75 and 264.76, each owner or operator of an applicable hazardous waste facility must submit the groundwater reports required under 264.97(i) and furnish additional reports concerning their hazardous waste activities including the following: (11/90)

(a) Releases, fires, and explosions as specified in 264.56(j);

(b) Facility closures specified in 264.115; and

(c) As otherwise required by subparts F, K through N, AA, BB, and CC of R.61-79.264 (12/92, 9/98).

(d) With the fourth quarter report, generators who treat, store, or dispose of hazardous waste onsite, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated. (moved 12/93)

(e) With the fourth quarter report, generators who treat, store, or dispose of hazardous waste onsite, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984. (moved 12/93)

264.78 Hazardous waste contingency fund fees [see also 44-56-170 & -510]

A check payable to the Department for the amount of the following fees:

(a) A fee of thirty-four dollars a ton of hazardous wastes generated and disposed of in this State by landfilling or other means of land disposal.

(b) A fee of thirteen dollars and seventy cents a ton of wastes generated and disposed of in this State by landfilling or other means of land disposal.

(c) A fee of one dollar per ton of hazardous wastes in excess of fifty tons remaining in storage at the end of the reporting period.

(d) For all hazardous wastes generated outside of the State and received at a facility during the quarter each

owner/operator of a hazardous waste land disposal facility shall remit to the department an amount equal to the per ton fee imposed on out-of-state waste by the state from which the hazardous waste originated but in any event no less than thirty-four dollars a ton.

(e) A fee of ten dollars a ton on the incineration of hazardous waste in this State whether the waste was generated within or outside of this State.

(f) Fees imposed by this subsection must be collected by the facility at which it is incinerated and remitted to the State Treasurer to be credited to the general fund of the State. For purposes of this subsection, "incineration" includes hazardous waste incinerators, boilers, and industrial furnaces.

Subpart F - Groundwater Protection - Releases From Solid Waste Management Units

264.90 Applicability

(a) (1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units. (12/93)

(2) All solid waste management units must comply with the requirements in 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") must comply with the requirements of 264.91 through 264.100 in lieu of 264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The financial responsibility requirements of 264.101 apply to regulated units.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this subpart if:

(1) The owner or operator is exempted under 264.1; or

(2) He operates a unit which the Department finds:

(i) Is an engineered structure,

(ii) Does not receive or contain liquid waste or waste containing free liquids,

(iii) Is designed and operated to exclude liquid, precipitation, and other runon and runoff,

(iv) Has both inner and outer layers of containment enclosing the waste,

(v) Has a leak detection system built into each containment layer,

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and postclosure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the postclosure care period.

(3) The Department finds, pursuant to 264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of 264.278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the postclosure care period (12/92); or

(4) The Department finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the postclosure care period specified under 264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with 264.250(c).

(c) The regulations under this subpart apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this subpart:

(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the postclosure care period under 264.117 if the owner or operator is conducting a detection monitoring program under 264.98; or

(3) Apply during the compliance period under 264.96 if the owner or operator is conducting a compliance monitoring program under 264.99 or a corrective action program under 264.100.

(d) Regulations in this subpart may apply to miscellaneous units when necessary to comply with 264.601 through 264.603. (11/90)

(e) [Reserved] (8/00)

(f) The Department may replace all or part of the requirements of 264.91 through 264.100 applying to a regulated unit with alternative requirements for groundwater monitoring and corrective action for releases to groundwater set out in the permit (as defined in 270.1(c)(7)) where the Department determines that: (8/00, 7/02))

(1) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

(2) It is not necessary to apply the groundwater monitoring and corrective action requirements of 264.91 through 264.100 because alternative requirements will protect human health and the environment.

264.91 Required programs

(a) Owners and operators subject to this subpart must conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under 264.93 from a regulated unit are detected at a compliance point under 264.95, the owner or operator must institute a compliance monitoring program under 264.99. Detected is defined as statistically significant evidence of contamination as described in 264.98(f); (11/90; 12/93)

(2) Whenever the groundwater protection standard under 264.92 is exceeded, the owner or operator must institute a corrective action program under 264.100. Exceeded is defined as statistically significant evidence of increased contamination as described in 264.99(d); (11/90; 12/93)

(3) Whenever hazardous constituents under 264.93 from a regulated unit exceed concentration limits under 264.94 in groundwater between the compliance point under 264.95 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under 264.100; or

(4) In all other cases, the owner or operator must institute a detection monitoring program under 264.98.

(b) The owner or operator shall specify in the permit application the specific elements of the monitoring and response program. The owner or operator shall include one or more of the programs identified in paragraph (a) of this section in the permit application as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to institute a particular program, the owner or operator shall consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken. (12/93)

264.92 Groundwater protection standard

The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under 264.93 detected in the groundwater from a regulated unit do not exceed the concentration limits under 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under 264.95 during the compliance period under 264.96. The Department will establish this groundwater protection standard in the facility permit when hazardous constituents have been detected in the groundwater. (11/90, 12/92)

264.93 Hazardous constituents

(a) The owner or operator will specify in the permit application the hazardous constituents to which the groundwater protection standard of 264.92 applies. Hazardous constituents are constituents identified in Appendix VIII of R.61-79.261 that have been detected in groundwater in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Department has granted exclusion of a constituent or constituents under paragraph (b) of this section. (12/93)

(b) The Department will consider exclusion of an Appendix VIII constituent from the list of hazardous constituents specified in the permit application if the owner or operator can demonstrate to the Department that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In making such demonstration, the owner or operator will consider the following: (12/93)

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the area;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and,

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of groundwater in the area around the facility, the Department will consider any identification of underground sources of drinking water and exempted aquifers made under Section 48-1-50 of the Code of Laws.

264.94 Concentration limits

(a) The owner or operator will specify in his permit application concentration limits in the groundwater for hazardous constituents established under 264.93. The concentration of a hazardous constituent: (12/93)

(1) Must not exceed the background level of that constituent in the groundwater at the time that limit is specified in the permit; or

(2) For any of the constituents listed in Table 1, must not exceed the respective value given in that table if the background level of the constituent is below the value given in Table 1; or

264.94 Table 1 Maximum Concentration of Constituents for Groundwater Protection

Constituent (12/92)	Maximum Concentration[1]
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Lead	0.05
Mercury	0.002
Selenium	0.05
Silver	0.05
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,9a-octahydro-1, 4-endo, endo-5, 8-dimethano naphthalene)	0.0002
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.004
Methoxychlor (1,1,1-Trichloro-2,2 bis p-methoxyphenylethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_6$, Technical chlorinated camphene, 67 to 69 percent chlorine)	0.005
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxy-propionic acid)	0.01

1 Milligram per liter.

(3) Must not exceed an alternate limit established by the Department under paragraph (b) of this section.

(b) The Department will consider establishing an alternate concentration limit for a hazardous constituent if the owner or operator can demonstrate to the Department that the constituent will not pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In making such demonstration the owner or operator will consider the following factors: (12/93)

(1) Potential adverse effects on groundwater quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of groundwater and the direction of groundwater flow;

(iv) The proximity and withdrawal rates of groundwater users;

(v) The current and future uses of groundwater in the area;

(vi) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically connected surfacewater quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of groundwater, and the direction of groundwater flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surfacewater quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of groundwater in the area around the facility the Department will consider any identification of underground sources of drinking water and exempted aquifers made under Section 48-1-50 of the Code of Laws.

264.95 Point of compliance

(a) The owner or operator will specify in the facility permit application the point of compliance at which the groundwater protection standard of 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units. (12/93)

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

264.96 Compliance period

(a) The owner or operator will specify in his the facility permit application the compliance period during which the groundwater protection standard of 264.92 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period.) (12/93)

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of 264.99.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the groundwater protection standard of 264.92 has not been exceeded for a period of three consecutive years.

264.97 General groundwater monitoring requirements

The owner or operator must comply with the following requirements for any groundwater monitoring program developed to satisfy 264.98, 264.99, or 264.100: (12/93)

(a) The groundwater monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield groundwater samples from the uppermost aquifer that:

(1) Represent the quality of background ground water that has not been affected by leakage from a regulated unit; (11/90)

(i) A determination of background ground water quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

(B) Sampling at other wells will provide an indication of background groundwater quality that is representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of groundwater passing the point of compliance.

(3) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(b) If a facility contains more than one regulated unit, separate groundwater monitoring systems are not required for each regulated unit provided that provisions for sampling the groundwater in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the groundwater in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater. All monitoring wells will have a locking cap or other security devices to prevent damage and/or vandalism. Each well will be labeled with an identification plate constructed of durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well identification number, date of construction, total well depth, static water level, and driller certification number. More sophisticated monitoring well construction may be required if deemed necessary by the Department (11/90; 12/92; 6/95).

(d) The groundwater monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of groundwater quality below the waste management area. At a minimum the program must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(e) The groundwater monitoring program must include sampling and analytical methods that are appropriate for groundwater sampling and that accurately measure hazardous constituents in groundwater samples.

(f) The groundwater monitoring program must include a determination of the groundwater surface elevation each time groundwater is sampled.

(g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit application will be collected from background wells and wells at the compliance point(s). The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to groundwater from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Department. This sampling procedure shall be: (11/90)

(1) A sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants, or

(2) an alternate sampling procedure proposed by the owner or operator and approved by the Department.

(h) The owner or operator will specify one of the following statistical methods to be used in evaluating groundwater monitoring data for each hazardous constituent which, upon approval by the Department, will be specified in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (pql's) are used in any of the following statistical procedures to comply with 264.97(i)(5), the pql must be proposed by the owner or operator and approved by the Department. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in paragraph (i) of this section. (11/90)

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method submitted by the owner or operator and approved by the Department.

(i) Any statistical method chosen under 264.97(h) for specification in the unit permit shall comply with the following performance standards, as appropriate: (11/90)

(1) The statistical method used to evaluate groundwater monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a groundwater protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experimentwise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts.

(3) If a control chart approach is used to evaluate groundwater monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the Department if he or she finds it to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and approved by the Department if it finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the

data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (pql) approved by the Department under 264.97(h) that is used in the statistical method shall be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(j) Groundwater monitoring data collected in accordance with paragraph (g) of this section including actual levels of constituents must be maintained in the facility operating record. The owner or operator will specify in the permit application the frequency (quarterly, semiannually, or annually) by which groundwater monitoring data will be collected at each monitoring well. (11/90; 12/93)

[Note: 264.98(d) requires specification of statistical evaluation frequency); 270.30(l)(4) states the Department will specify the intervals monitoring data is reported] (12/93)

(k) Report to the Department no later than thirty (30) days after the end of the quarter, semiannual or annual period specified, the groundwater data and determinations made pursuant to the following paragraphs: (11/90)

(1) Paragraphs (e) and (f) of 264.98, Detection Monitoring Program; and

(2) Paragraphs (d), (e) and (g) of 264.99, Compliance Monitoring Program; and

(3) Paragraph (d) of 264.100, Correction Action Program.

264.98 Detection monitoring program

An owner or operator required to establish a detection monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in groundwater. The owner or operator will specify the parameters or constituents to be monitored in the facility permit application, after considering the following factors: (12/93)

(1) The types, quantities, and concentrations of constituents in wastes managed at the regulated unit;

(2) The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area;

(3) The detectability of indicator parameters, waste constituents, and reaction products in groundwater; and

(4) The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the groundwater background.

(b) The owner or operator must install a groundwater monitoring system at the compliance point as specified under 264.95. The groundwater monitoring system must comply with 264.97(a)(2), (b), and (c).

(c) The owner or operator must conduct a groundwater monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to paragraph (a) of this section in accordance with 264.97(g). The owner or operator must maintain a record of groundwater analytical data as measured and in a form necessary for the determination of statistical significance under 264.97(h).

(d) The Department will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under paragraph (a) of this section in accordance with 264.97(g). (6/08)

(e) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter of hazardous constituent specified in the permit pursuant to paragraph (a) of this section at a frequency specified under paragraph (d) of this section. (11/90)

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator must use the method(s) specified in the permit under 264.97(h). These method(s) must compare data collected at the compliance point(s) to the background groundwater quality data.

(2) The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The permit application will specify what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(g) If the owner or operator determines pursuant to paragraph (f) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she must:

(1) Notify the Department of this finding in writing within seven days. The notification must

indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) Immediately sample the groundwater in all monitoring wells and determine whether constituents in the list of Appendix IX are present, and if so, in what concentration. However, the Department, on a discretionary basis, may allow sampling for a site-specific subset of constituents from the Appendix IX list and other representative/related waste constituents.

(3) For any Appendix IX compounds found in the analysis pursuant to paragraph (g)(2) of this section, the owner or operator may resample within one month or at an alternative site specific schedule approved by the Department and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds in paragraph (g)(2) of this section, the hazardous constituents found during this initial Appendix IX analysis will form the basis for compliance monitoring. (6/08)

(4) Within 90 days, submit to the Department an application for a permit modification to establish a compliance monitoring program meeting the requirements of 264.99. The application must include the following information: (12/93)

(i) An identification of the concentration of any Appendix IX constituent detected in the groundwater at each monitoring well at the compliance point;

(ii) Any proposed changes to the groundwater monitoring system at the facility necessary to meet the requirements of 264.99;

(iii) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of 264.99;

(iv) For each hazardous constituent detected at the compliance point, a proposed concentration limit under 264.94(a) (1) or (2), or a notice of intent to seek an alternate concentration limit under 264.94(b); and

(5) Within 180 days, submit to the Department: (11/90)

(i) All data necessary to justify an alternate concentration limit sought under 264.94(b); and

(ii) An engineering feasibility plan for a corrective action program necessary to meet the requirement of 264.100, unless:

(A) All hazardous constituents identified under paragraph (g)(2) of this section are listed in Table 1 of 264.94 and their concentrations do not exceed the respective values given in that Table; or

(B) The owner or operator has sought an alternate concentration limit under 264.94(b) for every hazardous constituent identified under paragraph (g)(2) of this section.

(6) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. The owner operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(4) of this section; however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must: (11/90, 12/92)

(i) Notify the Department in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this paragraph;

(ii) Within 90 days, submit a report to the Department which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

(iii) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(iv) Continue to monitor in accordance with the detection monitoring program established under this section.

(h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he or she must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program. (moved 11/90)

264.99 Compliance Monitoring Program

An owner or operator required to establish a compliance monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor the groundwater to determine whether regulated units are in compliance with the groundwater protection standard under 264.92. The Department will specify the

groundwater protection standard in the facility permit, including: (11/90; 12/93)

(1) A list of the hazardous constituents identified under 264.93;

(2) Concentration limits under 264.94 for each of those hazardous constituents;

(3) The compliance point under 264.95; and

(4) The compliance period under 264.96.

(b) The owner or operator must install a groundwater monitoring system at the compliance point as specified under 264.95. The groundwater monitoring system must comply with 264.97(a)(2), (b), and (c). (11/90)

(c) The Department will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with 264.97 (g) and (h). (11/90; 12/93)

(1) The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with 264.97(g).

(2) The owner or operator must record groundwater analytical data as measured and in form necessary for the determination of statistical significance under 264.97(h) for the compliance period of the facility.

(d) The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to paragraph (a) of this section, at a frequency specified under paragraph (f) under this section. (11/90)

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the method(s) specified in the permit under 264.97(h). The method(s) must compare data collected at the compliance point(s) to a concentration limit developed in accordance with 264.94.

(2) The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The permit application will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(e) The owner or operator must determine the groundwater flow rate and direction in the uppermost aquifer at least annually.

(f) The Department will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with 264.97(g). (11/90, 6/08)

(g) Annually, the owner or operator must determine whether additional hazardous constituents from Appendix IX, which could possibly be present but are not on the detection monitoring list in the permit, are actually present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in 264.98(f). To accomplish this, the owner or operator must consult with the Department to determine on a case by-case basis: which sample collection event during the year will involve enhanced sampling; the number of monitoring wells at the compliance point to undergo enhanced sampling; the number of samples to be collected from each of these monitoring wells; and, the specific constituents from Appendix IX for which these samples must be analyzed. If the enhanced sampling event indicates that Appendix IX constituents are present in the groundwater that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month or at an alternative site-specific schedule approved by the Department, and repeat the analysis. If the second analysis confirms the presence of new constituents, the owner or operator must report the concentration of these additional constituents to the Department within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then he or she must report the concentrations of these additional constituents to the Department within seven days after completion of the initial analysis, and add them to the monitoring list. (11/90, 6/08)

(h) If the owner or operator determines pursuant to paragraph (d) of this section that any concentration limits under 264.94 are being exceeded at any monitoring well at the point of compliance he or she must: (11/90)

(1) Notify the Department of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Department an application for a permit modification to establish a corrective action program meeting the requirements of 264.100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Department under 264.98(g)(5). The application must at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the groundwater protection standard specified in the permit under paragraph (a) of this section; and

(ii) A plan for a groundwater monitoring program that will demonstrate the effectiveness of the corrective action. Such a groundwater monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(i) If the owner or operator determines, pursuant to paragraph (d) of this section, that the groundwater concentration limits under this section are being exceeded at any monitoring well at the point of compliance, he or she may demonstrate that a source other than a regulated unit caused the contamination or

that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the groundwater. In making a demonstration under this paragraph, the owner or operator must: (11/90)

(1) Notify the Department in writing within seven days that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Department which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(j) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program. (moved 11/90)

264.100 Corrective action program

An owner or operator required to establish a corrective action program under this subpart must, at a minimum, discharge the following responsibilities: (11/90)

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the groundwater protection standard under 264.92. The permit application under these regulations will specify the groundwater protection standard, including (12/92; 12/93):

(1) A list of the hazardous constituents identified under 264.93;

(2) Concentration limits under 264.94 for each of those hazardous constituents;

(3) The compliance point under 264.95; and

(4) The compliance period under 264.96 (12/92).

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The owner or operator will specify the specific measures that will be taken in the permit application. (12/93)

(c) The owner or operator must begin corrective action within a reasonable time period after the groundwater protection standard is exceeded. The Department will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of 264.99(i)(2). (12/93)

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a groundwater monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under 264.99 and must be as effective as that program in determining compliance with the groundwater protection standard under 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under 264.93 that exceed concentration limits under 264.94 in groundwater:

(1) Between the compliance point under 264.95 and the downgradient property boundary; and

(2) Beyond the facility boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Department that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such action. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where offsite access is denied. Onsite measures to address such releases will be determined on a case-by-case basis.

(3) Corrective action measures under this paragraph must be initiated and completed within a reasonable period of time considering the extent of contamination.

(4) Corrective action measures under this paragraph may be terminated once the concentration of hazardous constituents under 264.93 is reduced to levels below their respective concentration limits under 264.94.

(f) The owner or operator must continue corrective action measures during the compliance period to the extent necessary to ensure that the groundwater protection standard is not exceeded. If the owner or operator is conducting corrective action at the end of the compliance period, he must continue that corrective action for as long as necessary to achieve compliance with the groundwater protection standard. The owner or operator may terminate corrective action measures taken beyond the period equal to the active life of the waste management area (including the closure period) if he can demonstrate, based on data from the groundwater monitoring program under paragraph (d) of this section, that the groundwater protection standard of 264.92 has not been exceeded for a period of three consecutive years.

(g) The owner or operator must report in writing to the Department on the effectiveness of the corrective

action program. The owner or operator must submit these reports annually (12/92, 6/08).

(h) If the owner or operator determines that the corrective action program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

264.101 Corrective action for solid waste management units

(11/90)

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit. (11/90)

(b) Corrective action will be specified in the permit application in accordance with this section and subpart S of this part. The permit application will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action. (11/90; 12/93)

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Department that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where offsite access is denied. Onsite measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided. (11/90)

(d) This section does not apply to remediation waste management sites unless they are part of a facility subject to a permit for treating, storing or disposing of hazardous wastes that are not remediation wastes. (8/00)

(e) All monitoring wells to be installed pursuant to 264.101 must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of groundwater samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the groundwater. More sophisticated monitoring well construction may be required if deemed necessary by the Department. All monitoring wells will have a locking cap or other security devices to prevent damage and/or vandalism. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well identification number, date of construction, total well depth, static water level, and driller certification number. [Note: See for guidance EPA's RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, TEGD]. (6/95; 8/00)

(f) If not otherwise proposed as part of a plan submitted for approval by the Department, the general design, construction, and location of monitoring wells installed for the purpose of investigating groundwater contamination from solid waste management units will be submitted to the Department for approval prior to installation. (6/95; 8/00)

Subpart G - Closure and Postclosure

264.110 Applicability

Except as 264.1 provides otherwise:

(a) Sections 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 264.116 through 264.120 (which concern postclosure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities;

(2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in 264.228 and 264.258;

(3) Tank systems that are required under 264.197 to meet the requirements for landfills; and

(4) Containment buildings that are required under 264.1102 to meet the requirement for landfills. (12/93)

(c) The Department may replace all or part of the requirements of this subpart (and the unit-specific standards referenced in 264.111(c) applying to a regulated unit), where the Department determines that: (8/00)

(1) The regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and

(2) It is not necessary to apply the closure requirements of this subpart (and those referenced herein) because the alternative requirements will protect human health and the environment and will satisfy the closure performance standard of 264.111(a) and (b).

264.111 Closure performance standard

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance; and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere (12/92); and

(c) Complies with the closure requirements of this part, including, but not limited to, the requirements of 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603, and 264.1102. (12/92; 12/93)

264.112 Closure plan; amendment of plan

(a) Written plan.

(1) The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be submitted with the permit application, in accordance with R.61-79.270.14(b)(13), and approved by the Department as part of the permit issuance procedures under R.61-79.124. In accordance with R.61-79.270.32, the approved closure plan will become a condition of any permit under these regulations. (11/90, 12/92)

(2) The Department's approval of the plan must ensure that the approved closure plan is consistent with Sections 264.111 through 264.115 and the applicable requirements of subpart F of this part, 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601, and 264.1102. Until final closure is completed and certified in accordance with 264.115, a copy of the approved plan and all approved revisions must be furnished to the Department upon request, including requests by mail. (11/90; 12/93)

(b) Content of plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with 264.111;

(2) A description of how final closure of the facility will be conducted in accordance with 264.111. The description must identify the maximum extent of the operations which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the type(s) of the offsite hazardous waste management units to be used, if applicable; and

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection, and runon and runoff control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)

(7) For facilities that use trust funds to establish financial assurance under 264.143 or 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(8) For facilities where the Department has applied alternative requirements at a regulated unit under 264.90(f), and/or 264.110(c), the alternative requirements applying to the regulated unit. (8/00)

(c) Amendment of plan. The owner or operator must submit a written request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in R.61-79.124 and R.61-79.270. The written request must include a copy of the closure plan for review or approval by the Department. (11/90; 12/92; 12/93)

(1) The owner or operator may submit a written request to the Department for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(2) The owner or operator must submit a written request for a permit modification to authorize a change in the approved closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(iv) The owner or operator requests the Department to apply alternative requirements to a regulated unit under 264.90(f), and/or 264.110(c). (8/00)

(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under 264.228(c)(1)(i) or 264.258(c)(1)(i), must submit an amended closure plan to the Department no later than 60 days from the date that the owner or operator or Department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Department will approve, disapprove, or modify this amended plan in accordance with the procedures in R.61-79.124 and R.61-79.270. In accordance with R.61-79.270.32, the approved closure plan will become a condition of permit issued under these regulations. (10/01)

(4) The Department may request modifications to the plan under the conditions described in 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Department's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Department will be approved in accordance with the procedures in R.61-79.124 and R.61-79.270.

(d) Notification of partial closure and final closure.

(1) The owner or operator must notify the Department in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Department in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed. The owner or operator must notify the Department in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace, whichever is earlier.

(2) The date when he "expects to begin closure" must be either: (11/90)

(i) No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the Department that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Department may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of 264.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the Department that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Department may approve an extension to this one-year limit.

(3) If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order S.C. 44-56-130 and 140 or under section 3008 of RCRA, to cease receiving hazardous wastes or to close, then the requirements of this paragraph do not apply. However, the owner or operator must close the facility in accordance with the deadlines established in 264.113 (12/92).

(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

264.113 Closure; time allowed for closure

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, the owner or operator must treat, remove from the unit or facility, or dispose of onsite, all hazardous wastes in accordance with the approved closure plan. The Department may approve a longer period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that: (11/90, 12/92)

(1) (i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii) (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section (12/92); and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility. The Department may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that: (11/90, 12/92)

(1) (i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii) (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section (12/92); and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year (12/92); and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows: (11/90)

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90 day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Department may allow an owner or operator to receive only nonhazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if: (11/90)

(1) The owner or operator requests a permit modification in compliance with all applicable requirements in parts 270 and 124 of this title and in the permit modification request demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive nonhazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The nonhazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements; and

(2) The request to modify the permit includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under RCRA section 3019 and the SC Pollution Control Act 48-1-50, and closure and postclosure plans, and updated cost estimates and demonstrations of financial assurance for closure and postclosure care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities, including the expected year of closure if applicable under 264.112(b)(7), as a result of the receipt of nonhazardous wastes following the final receipt of hazardous wastes (12/92); and

(3) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The request to modify the permit and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Department no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) (2) or (3) or and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j)(2), (3), (4) or (13) and the SC Pollution Control Act 48-1-50 must: (11/90; 12/92; 12/93, 9/01)

(1) Submit with the request to modify the permit:

(i) A contingent corrective measures plan, unless a corrective action plan has already been submitted under 264.99; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids, and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Department may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's groundwater protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in subpart F of this part, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Department to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide annual reports to the Department describing the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of nonhazardous wastes on the effectiveness of the corrective action. (6/08)

(6) The Department may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's groundwater protection standard or background levels if the facility has not yet established a groundwater protection standard.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Department determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Department receives no written comments, the decision will become final five days after the close of the comment period. The Department will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Department receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Department determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Department under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

264.114 Disposal or decontamination of equipment, structures and soils

During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless otherwise specified in 264.197, 264.228, 264.258, 264.280 or 264.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of R.61-79.262 (11/90).

264.115 Certification of closure

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Department by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by a qualified Professional Engineer Documentation supporting the Professional Engineer's certification must be furnished to the Department upon request until he releases the owner or operator from the financial assurance requirements for closure under 264.143(i).(6/08)

264.116 Survey plat

No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable subpart G regulations.

264.117 Postclosure care and use of property

(a) (1) Postclosure care for each hazardous waste management unit subject to the requirements of 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following: (11/90)

(i) Monitoring and reporting in accordance with the requirements of subparts F, K, L, M, N, and X of this part; and (12/93)

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of subparts F, K, L, M, N, and X of this part.

(2) Any time preceding partial closure of a hazardous waste management unit subject to postclosure care requirements or final closure, or any time during the postclosure period for a particular unit, the Department may, in accordance with the permit modification procedures in R.61-79.124 and R.61-79.270:

(i) Shorten the postclosure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if it finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or reuse techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the postclosure care period applicable to the hazardous waste management unit or facility if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment) (12/92).

(b) The Department may require, at partial and final closure, continuation of any of the security requirements of 264.14 during part or all of the postclosure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Postclosure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Department finds that the disturbance: (12/93)

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All postclosure care activities must be in accordance with the provisions of the approved postclosure plan as specified in 264.118.

264.118 Postclosure plan; amendment of plan

(a) Written Plan. The owner or operator of a hazardous waste disposal unit must have a written postclosure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent postclosure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent postclosure plans under 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a postclosure plan to the Department within 90 days from the date that the owner or operator or the Department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of 264.117 through 264.120. The plan must be submitted with the permit application, in accordance with R.61-79.270.14(b)(13) and approved by the Department as part of the permit issuance procedures

under R.61-79.124. In accordance with R.61-79.270.32, the approved postclosure plan will become a condition of any RCRA permit issued (12/92).

(b) For each hazardous waste management unit subject to the requirements of this section, the postclosure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with subparts F, K, L, M, N, and X of this part during the postclosure care period; and (11/90; 12/93)

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure: (11/90)

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of subparts F, K, L, M, N and X of this part; and (11/90; 12/93)

(ii) The function of the monitoring equipment in accordance with the requirements of subparts F, K, L, M, N, and X of this part; and (12/93)

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the postclosure care period.

(4) For facilities where the Department has applied alternative requirements at a regulated unit under 264.90(f), and/or 264.110(c), the alternative requirements that apply to the regulated unit. (8/00)

(c) Until final closure of the facility, a copy of the approved postclosure plan must be furnished to the Department upon request, including request by mail. After final closure has been certified, the person or office specified in 264.118(b)(3) must keep the approved postclosure plan during the remainder of the postclosure period.

(d) Amendment of plan. The owner or operator must submit a written request for a permit modification to authorize a change in the approved postclosure plan in accordance with the applicable requirements in parts 124 and 270. The written request must include a copy of the amended postclosure plan for review or approval by the Department. (11/90)

(1) The owner or operator may submit a written notification or request to the Department for a permit modification to amend the postclosure plan at any time during the active life of the facility or during the postclosure care period.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved postclosure plan whenever:

(i) Changes in operating plans or facility design affect the approved postclosure plan, or

(ii) There is a change in the expected year of final closure, if applicable, or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved postclosure plan.

(iv) The owner or operator requests the Department to apply alternative requirements to a regulated unit under 264.90(f), and/or 264.110(c). (8/00)

(3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the postclosure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent postclosure plan under 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a postclosure plan to the Department no later than 90 days after the date that the owner or operator or the Department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of 264.310. The Department will approve, disapprove or modify this plan in accordance with the procedures in R.61-79.124 and R.61-79.270. In accordance with R.61-79.270.32, the approved postclosure plan will become a permit condition.

(4) The Department may request modifications to the plan under the conditions described in R.61-79.264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Departments request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent postclosure plan. Any modifications requested by the Department will be approved, disapproved, or modified in accordance with the procedures in R.61-79.124 and R.61-79.270.

264.119 Postclosure notices

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept. (12/92)

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property - or on some other instrument which is normally examined

during title search - that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under R.61-79.264 and 265 subpart G; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Department; and

(2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Department.

(c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the postclosure permit in accordance with the applicable requirements in R.61-79.124 and R.61-79.270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of these Regulations. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Department approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

264.120 Certification of completion of postclosure care

No later than 60 days after completion of the established postclosure care period for each hazardous waste disposal unit, the owner or operator must submit to the Department, by registered mail, a certification that the postclosure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved postclosure plan. The certification must be signed by the owner or operator and a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Department upon request until it releases the owner or operator from the financial assurance requirements for postclosure care under 264.145(i).(6/08)

Subpart H - Financial Requirements

264.140 Applicability

(a) The requirements of 264.142, 264.143, and 264.147 through 264.151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in 264.1.

(b) The requirements of 264.144 and 264.145 apply only to owners and operators of:

(1) Disposal facilities;

(2) Piles, and surface impoundments from which the owner or operator intends to remove the waste.s at closure, to the extent that these sections are made applicable to such facilities in 264.228 and 264.258;

(3) Tank systems that are required under 264.197 to meet the requirements for landfills; and (12/92)

(4) Containment buildings that are required under 264.1102 to meet the requirements for landfills. (12/93)

(c) State and Federal governments are exempt from the requirements of this subpart. (moved from (d) 6/95)

(d) [Reserved 6/03]

264.141 Definitions of terms as used in this subpart

(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of 264.112.

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with 264.142 (a), (b), and (c).

(c) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with 264.144 (a), (b) and (c).

(d) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of 264.117 through 264.120.

(f) The following terms are used in the specifications for the financial tests for closure, postclosure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of

existing resources properly classifiable as current assets or the creation of other current liabilities.

"Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with SC Safe Drinking Water Act 44-55-10 *et seq.* and Federal 40 CFR 144.62(a), (b) and (c). (6/89, 12/92)

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

(h) "Substantial business relationship" means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the Department. (11/90)

264.142 Cost estimate for closure

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in 264.111 through 264.115 and applicable closure requirements in 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601 through 264.603, and 264.1102. (11/90; 12/92; 12/93)

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan [see 264.112(b)]. (12/92)

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in 264.141(d)). The owner or operator may use costs for onsite disposal if he can demonstrate that onsite disposal capacity will exist at all times over the life of the facility. (12/92)

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under 264.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure. (11/90)

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under 264.113(d), that might have economic value. (11/90)

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 264.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Department as specified in 264.143(f)(3). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its "Survey of Current Business," as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The closure cost estimate must be adjusted for inflation as specified in 264.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with 264.142 (a) and (c) and, when this estimate has been adjusted in accordance with 264.142(b), the latest adjusted closure cost estimate.

264.143 Financial assurance for closure

An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) Standby trust fund. [5/93]

(1) An owner or operator may satisfy the requirements of this section by establishing a standby trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Department. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgement [for example, see 264.151 (a)(2)]. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement. (12/93)

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraphs (a) (7) or (8) of this section, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the Department will instruct the trustee to make reimbursements in those amounts as the Department specifies in writing, if the Department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, the Department may withhold reimbursements of such amounts as it deems prudent until it determines, in accordance with 264.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Department does not instruct the trustee to make such reimbursements, it will provide the owner or operator with a detailed written statement of reasons.

(11) The Department will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or,

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(b) Surety bond guaranteeing payment into a closure trust fund.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond

which conforms to the requirements of this paragraph and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 264.151(b). (12/93)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.143(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or,

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Department becomes final, or within 15 days after an order to begin final closure is issued by a U.S. District Court or other court of competent jurisdiction; or (11/90)

(iii) Provide alternate financial assurance as specified in this section, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Department has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Surety bond guaranteeing performance of closure.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in 264.151(c). (12/92; 12/93)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust must meet the requirements specified in 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.143(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to RCRA 3008 that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Department has given prior written consent. The Department will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(d) Closure letter of credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. An owner or operator of a new facility must submit the letter of credit to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in 264.151(d) of this regulation. (12/92; 12/93)

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements of the trust fund specified in 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.143(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Department have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(8) Following a final administrative determination pursuant to S.C. 44-56-130 and -140 or section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Department may draw on the letter of credit. (12/92)

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Department.

(10) The Department will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(e) Closure insurance.

(1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Department. An owner or operator of a new facility must submit the certificate of insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in 264.151(e). (12/92; 12/93)

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in 264.143(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Department. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Department will instruct the insurer to make reimbursements in such amounts as the Department specifies in writing, if the Department determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, it may withhold reimbursements of such amounts as it deems prudent until it determines, in accordance with 264.143(i), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Department does not instruct the insurer to make such reimbursements, it will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Department deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Department or a State court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(10) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(f) Financial test and corporate guarantee for closure.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and postclosure cost estimate and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer [264.151(f)]. The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in

paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in 264.151(f); and, (12/92; 12/93)

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and (6/89)

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Department of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.143(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (8) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in 264.151(h). The certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee must provide that: (12/93)

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 264.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section

and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d) and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. A single standby trust fund may be established for two or more mechanisms. The Department may use any or all of the mechanisms to provide for closure of the facility. (12/92; 5/93; 12/93)

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. The amount of funds available through the mechanisms must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Department will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Department has reason to believe that final closure has not been in accordance with the approved closure plan. The Department shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan. (12/93, 6/08)

264.144 Cost estimate for postclosure care

(a) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under 264.228 and 264.258 to prepare a contingent closure and postclosure plan, must have a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure regulations in 264.117 through 264.120, 264.228, 264.258, 264.280, 264.310, and 264.603. (6/89; 11/90; 12/93)

(1) The postclosure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in 264.141(d).)

(2) The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under 264.117.

(b) During the active life of the facility and during the postclosure period of the facility, the owner or operator must adjust the postclosure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with 264.145. For owners or operators using the financial test or corporate guarantee, the postclosure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the Department as specified in 264.145(f)(5). The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in 264.145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. (5/93)

(1) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the postclosure cost estimate within 30 days after the Department has approved the request to modify the postclosure plan, if the change in the postclosure plan increases the cost of postclosure care. The postclosure cost estimate must be adjusted for inflation as specified in 264.144(b).

(d) (5/93)

(1) The owner or operator must keep the following at the facility during the active life of the

facility: The latest postclosure cost estimate prepared in accordance with section 264.144 (a) and (c) and, when this estimate has been adjusted in accordance with Section 264.144(b), the latest adjusted postclosure cost estimate. (12/93)

(2) During the postclosure period of the facility, the owner or operator must maintain the information specified in (d)(1) and provide it to the Department upon request.

264.145 Financial assurance for postclosure care

The owner or operator of a hazardous waste management unit subject to the requirements of 264.144 must establish financial assurance for postclosure care in accordance with the approved postclosure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. He must choose from the following options:

(a) Standby trust fund (replaced 5/93).

(1) An owner or operator may satisfy the requirements of this section by establishing a standby trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Department. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgement [for example, see 264.151(a)(2)]. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current postclosure cost estimate covered by the agreement. (12/93)

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Whenever the current postclosure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current postclosure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current postclosure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current postclosure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current postclosure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(10) During the period of postclosure care, the Department may approve a release of funds if the owner or operator demonstrates to the Department that the value of the trust fund exceeds the remaining cost of postclosure care.

(11) An owner or operator or any other person authorized to conduct postclosure care may request reimbursements for postclosure care expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for postclosure care activities, the Department will instruct the trustee to make reimbursements in those amounts as the Department specifies in writing, if the Department determines that the postclosure care expenditures are in accordance with the approved postclosure plan or otherwise justified. If the Department does not instruct the trustee to make such reimbursements, it will provide the owner or operator with a detailed written statement of reasons.

(12) The Department will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.145(i).

(b) Surety bond guaranteeing payment into a postclosure trust fund.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury and licensed to do business in South Carolina. (6/89)

(2) The wording of the surety bond must be identical to the wording specified in 264.151(b). (12/92; 12/93)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.145(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current postclosure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Department becomes final, or within 15 days after an order to begin final closure is issued by the State court or other court of competent jurisdiction; or (12/93)

(iii) Provide alternate financial assurance as specified in this section, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current postclosure cost estimate, except as provided in 264.145(g).

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the Department.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts. (11/90)

(9) The owner or operator may cancel the bond if the Department has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section. (11/90)

(c) Surety bond guaranteeing performance of postclosure care. (11/90)

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Department. An owner or operator of a new facility must submit the bond to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury. (11/90)

(2) The wording of the surety bond must be identical to the wording specified in 264.151(c). (11/90)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in 264.145(a), except that: (11/90)

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.145(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current postclosure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will: (11/90)

(i) Perform postclosure care in accordance with the postclosure plan and other requirements of the permit for the facility; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Department's

written approval of the assurance provided, within 90 days of receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform postclosure care in accordance with the approved postclosure plan and other permit requirements, under the terms of the bond the surety will perform postclosure care in accordance with the postclosure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund. (11/90)

(6) The penal sum of the bond must be in an amount at least equal to the current postclosure cost estimate. (11/90)

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum during the active life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section. Whenever the current postclosure cost estimate decreases during the active life of the facility, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the Department. (11/90)

(8) During the period of postclosure care, the Department may approve a decrease in the penal sum if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of postclosure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Department has given prior written consent. The Department will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of postclosure care by the owner or operator after the Department releases the owner or operator from the requirements of this section in accordance with 264.145(i).

(d) Postclosure letter of credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. An owner or operator of a new facility must submit the letter of credit to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in 264.151(d). (12/92; 12/93)

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements of the trust fund specified in 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in 264.145(a);

(B) Updating of Schedule A of the trust agreement (see 264.151(a)) to show current postclosure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for postclosure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the

Department have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current postclosure cost estimate, except as provided in 264.145(g).

(7) Whenever the current postclosure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current postclosure cost estimate following written approval by the Department. (11/90)

(8) During the period of postclosure care, the Department may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of postclosure care.

(9) Following a final administrative determination pursuant to SCHWMA 44-56-140 and section 3008 of RCRA that the owner or operator has failed to perform postclosure care in accordance with the approved postclosure plan and other permit requirements, the Department may draw on the letter of credit. (12/92)

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Department.

(11) The Department will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.145(i).

(e) Postclosure insurance.

(1) An owner or operator may satisfy the requirements of this section by obtaining postclosure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Department. An owner or operator of a new facility must submit the certificate of insurance to the Department at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States. (11/90)

(2) The wording of the certificate of insurance must be identical to the wording specified in 264.151(e). (12/92; 12/93)

(3) The postclosure insurance policy must be issued for a face amount at least equal to the current postclosure cost estimate, except as provided in 264.145(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The postclosure insurance policy must guarantee that funds will be available to provide postclosure care of the facility whenever the postclosure period begins. The policy must also guarantee that once postclosure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(5) An owner or operator or any other person authorized to conduct postclosure care may request reimbursements for postclosure care expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for postclosure care activities, the Department will instruct the insurer to make reimbursements in those amounts as the Department specifies in writing, if the Department determines that the postclosure care expenditures are in accordance with the approved postclosure plan or otherwise justified. If the Department does not instruct the insurer to make such reimbursements, it will provide the owner or operator with a detailed written statement of reasons. (11/90)

(6) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Department deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Department or a State court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current postclosure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current postclosure cost estimate following written approval by the Department.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with 264.145(i).

(f) Financial test and corporate guarantee for postclosure care.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer [264.151(f)]. The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in

paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in 264.151(f); and (12/92; 12/93)

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Department at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Department of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of postclosure care, the Department may approve a decrease in the current postclosure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Department that the amount of the cost estimate exceeds the remaining cost of postclosure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements for this section in accordance with 264.145(i). (12/93)

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in 264.151(h). A certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantors chief financial officer. If the guarantors parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that: (12/93)

(i) If the owner or operator fails to perform postclosure care of a facility covered by the corporate guarantee in accordance with the postclosure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in 264.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the

Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs, (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current postclosure cost estimate. A single standby trust fund may be established for two or more mechanisms. The Department may use any or all of the mechanisms to provide for postclosure care of the facility. (5/93; 12/93)

(h) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for postclosure care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for postclosure care of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism. (11/90)

(i) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that the postclosure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Department will notify the owner or operator that he is no longer required to maintain financial assurance for postclosure of that unit, unless the Department has reason to believe that postclosure care has not been in accordance with the approved postclosure plan. The Department shall provide the owner or operator a detailed written statement of any such reason to believe that postclosure care has not been in accordance with the approved postclosure plan. (6/80)

264.146 Use of a mechanism for financial assurance of both closure and postclosure care

An owner or operator may satisfy the requirements for financial assurance for both closure and postclosure care for one or more facilities by using a surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both 264.143 and 264.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of postclosure care.

264.147 Liability requirements

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated, as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section: (11/90; 12/93)

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Department. The owner or operator must provide a signed duplicate original of the insurance policy, application, and any agreements which may affect the policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. (6/89; 12/93)

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact

the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section. (11/90, 12/92)

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section. (11/90)

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section. (11/90)

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section. (11/90)

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage. (11/90)

(7) An owner or operator shall notify the Department in writing within 30 days whenever: (12/93)

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (a)(6) of this section. (11/90; 12/93)

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, land treatment facility, or disposal miscellaneous unit that is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraphs (b) (1), (2), (3), (4), (5), or (6), of this section: (11/90, 12/92)

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Department. If requested by the Department, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section. (11/90)

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section. (11/90)

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section. (11/90)

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section. (11/90)

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage. (11/90)

(7) An owner or operator shall notify the Department in writing within 30 days whenever:

(i) A claim results in the reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section. (11/90; 12/93)

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Department that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Department. The request for a variance must be submitted to the Department as part of the application under R.61-79.270.14 for a facility that does not have a permit, or pursuant to the procedures for permit modification under R.61-79.124.5 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Department may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Department to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under R.61-79.270.41(a)(5) and R.61-79.124.5. (12/92)

(d) Adjustments by the Department. If the Department determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Department may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Department, within a reasonable time, any information which the Department requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under R.61-79.270.41(a)(5) and R.61-79.124.5.

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Department will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Department has reason to believe that closure has not been in accordance with the approved closure plan. (6/08)

(f) Financial test for liability coverage.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he

passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii):

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either:

(1) At least 90 percent of his total assets; or

(2) At least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or postclosure care, as specified by 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Department at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Department within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements. (12/93)

(7) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) Guarantee for liability coverage. (11/90)

(1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in 264.151(h)(2) of this part. A certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business

relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. (11/90)

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved] (11/90)

(2) (i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to the Department that a guarantee executed as described in this section and 264.151(h)(2) is a legally valid and enforceable obligation in that State. (11/90)

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to the Department that a guarantee executed as described in this section and 264.151(h)(2) is a legally valid and enforceable obligation in that State. (11/90)

(h) Letter of credit for liability coverage. (11/90)

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Department. (11/90; 12/93)

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency. (11/90)

(3) The wording of the letter of credit must be identical to the wording specified in 264.151(k) of this part. (11/90)

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. (12/93)

(5) The wording of the standby trust fund must be identical to the wording specified in 264.151(n). (12/93)

(i) Surety bond for liability coverage. (11/90)

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Department.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in 264.151(l) of this part.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of

(i) the State in which the surety is incorporated, and

(ii) each State in which a facility covered by the surety bond is located have submitted a written statement to the Department that a surety bond executed as described in this section and 264.151(l) of this part is a legally valid and enforceable obligation in that State. (12/92)

(j) Trust fund for liability coverage. (11/90)

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Department.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or

operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator. (12/92)

(4) The wording of the trust fund must be identical to the wording specified in 264.151(m).

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States. (11/90)

264.148 Incapacity of owners or operators, guarantors, or financial institutions
(6/89, 12/92)

(a) An owner or operator must notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (264.151(h))

(b) An owner or operator who fulfills the requirements of 264.143, 264.145, or 264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

264.149 Hazardous waste contingency fund
The payment of fees required under 44-56-160, -170, and -510 *et seq.* and under section 262.45, and section 264.78 and 265.78 will be deposited in the Hazardous Waste Contingency Fund to ensure the availability of funds for contingencies rising from permitted hazardous waste landfills and to defray the costs of governmental response actions at uncontrolled hazardous waste sites. Of the fees collected pursuant to 44-56-170(C), (D), and (E), credited to the contingency fund pursuant to section 44-56-175, thirteen percent must be held separate and distinct within the fund in a permitted site fund for the purpose of response actions arising from the operation of the permitted land disposal facilities in this State. Of the fees collected pursuant to Section 44-56-510 and credited to the contingency fund pursuant to Section 44-56-175, twenty-six percent must be credited to the fund for permitted sites. (12/93)

264.150 [Reserved 12/93]

264.151 Wording of the instruments

(a) (1) A standby trust fund, as specified in 264.143(a) or 264.145(a) or 265.143(a) or 265.145(a), must be worded as noted in 264.151 Appendix A (1) except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90, 5/93)

(2) Certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in 264.143(a) and 264.145(a) or 265.143(a). This document must be worded as noted in 264.151 Appendix A(2) except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(b) A surety bond guaranteeing payment into a trust fund, as specified in 264.143(b) or 264.145(b) or 265.143(b) or 265.145(b) must be worded as noted in 264.151 Appendix B follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(c) A surety bond guaranteeing performance of closure and/or postclosure care, as specified in 264.143(c) or 264.145(c), must be worded as noted in 264.151 Appendix C, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(d) A letter of credit, as specified in 264.143(d) or 264.145(d) or 265.143(c) or 265.145(c) must be worded as noted in 264.151 Appendix D, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(e) A certificate of insurance, as specified in 264.143(e) or 264.145(e) or 265.143(d) or 265.145(d) must be worded as noted in 264.151 Appendix E, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(f) A letter from the chief financial officer, as specified in 264.143(f) or 264.145(f) or 265.143(e) or 265.145(e) must be worded as noted in 264.151 Appendix F, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90; 12/93)

(g) A letter from the chief financial officer, as specified in 264.147(f) or 265.147(f), must be worded as noted in 264.151 Appendix G, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (12/93)

(h) (11/90)

(1) A corporate guarantee, as specified in 264.143(f) or 264.145(f) or 265.143(e) or 265.145(e) must be worded as indicated in 264.151 Appendix H 1,

except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

(2) A guarantee, as specified in 264.147(g) or 265.147(g) must be worded as noted in 264.151 Appendix H 2, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

(i) A hazardous waste facility liability endorsement as required in 264.147 or 265.147 must be worded as noted in 264.151 Appendix I, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90)

(j) A certificate of liability insurance as required in 264.147 or 265.147 must be worded as noted in 264.151 Appendix J, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90)

(k) A letter of credit, as specified in 264.147(i) or 265.147(i), must be worded as noted in 264.151 Appendix K, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (11/90)

(l) A surety bond, as specified in 264.147(h) or 265.147(h), must be worded as noted in 264.151 Appendix L, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (12/93)

(m) (1) A trust agreement, as specified in 264.147(j) or 265.147(j), must be worded as noted in 264.151 Appendix M(1), except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (12/93)

(2) 264.151 Appendix M(2) contains an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in 264.147(j) or 265.147(j). (12/93)

(n) (1) A standby trust agreement, as specified in 264.147(h) or 265.147(h), must be worded as noted in 264.151 Appendix N(1), except that instructions in brackets are to be replaced with the relevant information and the brackets deleted. (12/93)

(2) 264.151 Appendix N (2) contains an example of the certification of acknowledgement which must accompany the trust agreement for a standby trust fund as specified in section 264.147(h) or 265.147(h). (12/93)

264.151 Appendix A (1)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

TRUST AGREEMENT, the "Agreement," entered into as of _____ [date] by and between _____ [name of the owner or operator], a _____ [name of State], _____ [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and _____ [name of corporate trustee], [insert "incorporated in the State of _____" or "a national bank"], the "Trustee."

WHEREAS, the South Carolina Department of Health and Environmental Control, hereafter referred to as the "Department", an agency of the state of South Carolina, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility,

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee,

NOW, THEREFORE, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of the Department. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the Department shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the Department from the Fund for closure and post-closure expenditures in such amounts as the Department shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the Department specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C.

80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 *et seq*., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 15. Notice of Nonpayment. The Trustee shall notify the Grantor and the Department, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of South Carolina.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

IN WITNESS WHEREOF the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above

written: The parties below certify that the wording of this Agreement is identical to the wording specified in R.61-79.264.151 (a)(1) as such regulations were constituted on the date first above written.

_____
[Signature of Grantor]
[Title]
Attest:_____
[Title]
[Seal]

_____
[Signature of Trustee]
Attest:_____
[Title]
[Seal]

264.151 Appendix A (2)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Certificate of Acknowledgement (must accompany the trust agreement):

State of South Carolina

County of _____
On this _____ [date], before me personally came _____ [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at _____ [address], that she/he is _____ [title] of _____ [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

(Signature of Notary Public) _____

264.151 Appendix B

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Surety Bond: Guaranteeing Payment Into a Trust Fund for Closure and/or Postclosure Care

FINANCIAL GUARANTEE BOND

Date bond executed: _____
Effective date: _____
Principal: _____ [Legal name and business address of owner or operator]
Type of organization: _____ [insert "individual", "joint venture", "partnership", or "corporation"]
State of incorporation: _____
Surety(ies): _____ [name(s) and business address(es)] _____
EPA Identification Number, name, address and closure and/or postclosure amount(s) for each facility guaranteed by this bond [indicate closure and postclosure amounts separately]:
_____
Total penal sum of bond: $_____
Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the South Carolina Department of Health and Environmental Control (hereinafter called the "Department"), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under South Carolina Hazardous Waste Management Regulation to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and postclosure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure is issued by the Department or an EPA Regional Administrator or a U.S. district court or other court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in Subpart H of R.61-79.264 or R.61-79.265, as applicable, and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Department that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has been found in violation of the postclosure requirements of R.61-79.264 for a facility for which this bond guarantees performance of postclosure care, the Surety(ies) shall either perform postclosure care in accordance with the postclosure plan and other permit requirements or place the postclosure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has failed to provide alternate financial assurance as specified in Subpart H of R.61-79.264 and obtain written approval of such assurance from the Department during the 90 days following receipt by both the Principal and the Department of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and to the Department, provided, however, that cancellation shall not occur during the 120 days

beginning on the date of receipt of the notice of cancellation by both the Principal and the Department, as evidenced by the return receipts.

The Principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Department.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or postclosure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Department.

In Witness Whereof, the Principal and Surety(ies) have executed this Financial Guarantee Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in R.61-79.264 Section 264.151(b) as such regulations were constituted on the date this bond was executed.

Principal
[Signature(s)] _____
[Name(s)] _____
[Title(s)] _____
[Corporate seal] _____

Corporate Surety(ies)
[Name and address] _____
[State of incorporation:] _____
Liability limit: $_____
[Signature(s)] _____
[Name(s) and title(s)] _____
[Corporate seal] _____

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $_____

264.151 Appendix C

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Surety Bond: Guaranteeing Performance of Closure and/or Postclosure Care

PERFORMANCE BOND

Date bond executed: _____
Effective date: _____
Principal: _____ [Legal name and business address of owner or operator]
Type of organization: _____ [insert "individual", "joint venture", "partnership", or "corporation"]
State of incorporation: _____
Surety(ies): _____
_____ [name(s) and business address(es)]
EPA Identification Number, name, address, and closure and/or postclosure amount(s) for each facility guaranteed by this bond [indicate closure and postclosure amounts separately]:
_____
Total penal sum of bond: $_____
Surety's bond number: _____

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the South Carolina Department of Health and Environmental Control hereinafter called the "Department" in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the S.C. Hazardous Waste Management Regulations and the Resource Conservation and Recovery Act as amended (RCRA) to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and postclosure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform postclosure care of each facility for which this bond guarantees postclosure care, in accordance with the postclosure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

Or, if the Principal shall provide alternate financial assurance as specified in Subpart H of R.61-79.264 and obtain the Department's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the Department from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by the Department that the Principal has been found in violation of the closure requirements of R.61-79 part 264, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has been found in violation of the postclosure requirements of R.61-79 part 264 for a facility for which this bond guarantees performance of postclosure care, the Surety(ies) shall either perform postclosure care in accordance with the postclosure plan and other permit requirements or place the postclosure amount guaranteed for the facility into the standby trust fund as directed by the Department.

Upon notification by the Department that the Principal has failed to provide alternate financial assurance as specified in Subpart H of R.61-79 part 264, and obtain written approval of such assurance from the Department during the 90 days following receipt by both the Principal and the Department of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the Department.

The Surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Department, as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the Department.

[The following paragraph is an optional rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or postclosure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the Department.

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in R.61-79.264.151(c) as such regulation was constituted on the date this bond was executed.

Principal

[Signatures)] _____
[Name(s)] _____
[Title(s)] _____
[Corporate Seal] _____

Corporate Surety(ies)

[Name and address] _____
State of Incorporation: _____
Liability Limit: _____
[Signature(s)] _____
[Name(s) and title(s)] _____
[Corporate seal:] _____

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $_____

264.151 Appendix D

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 12/94; 5/96; 8/00)

Letter of Credit Covering Cost of Closure and/or Postclosure Care

Irrevocable Standby Letter of Credit

Chief
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in your favor, at the request and for the account of _____ [owner's or operator's name and address] up to the aggregate amount of [in words] _____ U. S. dollars $_____, available upon presentation of:

(1) your sight draft, bearing reference to this letter of credit No. _____, and
(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the South Carolina Department of Health and Environmental Control."

This letter of credit is effective as of _____ [date] and shall expire on _____ [date at least 1 year later] but such expiration date shall be automatically extended for a period of _____ [at least 1 year] on _____ [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and _____ [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and _____ [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of _____ [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in R.61-79.264.151(d) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]
_____
[Date] _____

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

264.151 Appendix E

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93, 5/96, 8/00, 6/04)

Insurance Covering Cost of Closure and/or Postclosure Care

CERTIFICATE OF INSURANCE FOR CLOSURE OR POSTCLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"):
_____
Name and Address of Insured (herein called the "Insured"):
_____
Facilities Covered:
[List for each facility:
EPA ID# _____
NAME _____
ADDRESS _____
AMOUNT OF INSURANCE FOR CLOSURE AND/OR THE AMOUNT FOR POSTCLOSURE CARE _____
(These amounts for all facilities covered must total the face amount below.)]
Face Amount: _____
Policy Number: _____
Effective Date: _____

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for _____ [insert "closure" or "closure and postclosure care" or "postclosure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of the Department including R.61-79.264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

The insurer agrees to furnish to the Department a duplicate original of the policy listed above, including all endorsements thereon. In addition, the Insurer shall provide a copy of the insurance policy, application, and any agreements which may affect the policy.

I hereby certify that the wording of this certificate is identical to the wording specified in R.61-79.264.151(e) as such regulations were constituted on the date shown immediately below.

[Authorized signature for Insurer] _____
[Name of person signing] _____
[Title of person signing] _____
Signature of witness or notary: _____

[Date] _____

264.151 Appendix F

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Financial Test for Closure and/or Postclosure Care

LETTER FROM CHIEF FINANCIAL OFFICER

Chief
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201

Dear Sir: I am the chief financial officer of _____ [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance for closure and/or post-closure costs, as specified in Subpart H of R.61-79 Parts 264 and 265 by the South Carolina Department of Health and Environmental Control. (6/89)

[Fill out the following four paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or postclosure cost estimates. Identify each cost estimate as to whether it is for closure or postclosure care].

1. This firm is the owner or operator of the following facilities which are located in the state of South Carolina and for which financial assurance for closure or postclosure care is demonstrated through the financial test specified in Subpart H of R.61-79.264 or R.61-79.265. The current closure and/or postclosure cost estimates covered by the test are shown for each facility: _____ .(6/89)

2. This firm guarantees, through the guarantee specified in Subpart H of R.61-79.264 or R.61-79.265, the closure or postclosure care of the following facilities which are located in the state of South Carolina and which are owned or operated by the guaranteed party. The current cost estimates for the closure or postclosure care so guaranteed are shown for each facility: _____ (6/89) The firm identified above is _____ [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____]. [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter].

3. In states outside of South Carolina, where the United States Environmental Protection Agency (EPA) or some designated authority is administering the financial requirements of subpart H of part 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or postclosure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in R.61-79 Subpart H Parts 264 and 265. The current closure and/or postclosure cost estimates covered by such a test are shown for each facility: _____. (6/89)

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, postclosure care, is not demonstrated to the Department through the financial test or any other financial assurance mechanism specified in Subpart H of R.61-79.264 and R.61-79.265 or equivalent or substantially equivalent State mechanisms. The current closure and/or postclosure cost estimates not covered by such financial assurance are shown for each facility: _____.

This firm _____ [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on _____ [month/day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended _____ [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of 264.143 or 264.145, or of paragraph (e)(1)(i) of 265.143 or 265.145 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of 264.143 or 264.145, or of paragraph (e)(1)(ii) of 265.143 or 265.145 are used.]:

ALTERNATIVE I

	1. Sum of current closure and postclosure cost estimates [total of all cost estimates shown in the four paragraphs above]....	$ _____
*	2. Total liabilities [If any portion of the closure or postclosure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]	$ _____
*	3. Tangible net worth	$ _____
*	4. Net worth	$ _____
*	5. Current assets	$ _____
*	6. Current liabilities	$ _____
	7. Net working capital [line 5 minus line 6]	$ _____
*	8. The sum of net income plus depreciation, depletion, and amortization	$ _____
*	9. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)	$ _____

	Yes	No
10. Is line 3 at least $10 million?		
11. Is line 3 at least 6 times line 1?		
12. Is line 7 at least 6 times line 1?		
* 13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14.		

14. Is line 9 at least 6 times line 1?		
15. Is line 2 divided by line 4 less than 2.0?		
16. Is line 8 divided by line 2 greater than 0.1?		
17. Is line 5 divided by line 6 greater than 1.5?		

ALTERNATIVE II

1. Sum of current closure and postclosure cost estimates [total of all cost estimates shown in the four paragraphs above] $ _____
2. Current bond rating of most recent issuance of this firm and name of rating service _____
3. Date of issuance of bond _____
4. Date of maturity of bond _____

*5. Tangible net worth [if any portion of the closure and postclosure cost estimates is included in "total liabilities" on your financial statements, you may add the amount of that portion to this line] $ _____

6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.) $_____

	Yes	No
7. Is line 5 at least $10 million?		
8. Is line 5 at least 6 times line 1?		
*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10.		
10. Is line 6 at least 6 times line 1?		

I hereby certify that the wording of this letter is identical to the wording specified in R.61-79.264.151(f) as such regulations were constituted on the date shown immediately below. (6/89)

_____Signature)
_____(Name)
_____(Title)
_____(Date)

264.151 Appendix G

Financial Test for Liability Coverage -
Letter from Chief Financial Officer
(12/93; 5/96; 8/00)

Chief
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Dear Sir: I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or postclosure care" if applicable] as specified in Subpart H of Parts 264 and 265.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, and address].

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in Subpart H of Parts 264 and 265: _____.

The firm identified above guarantees, through the guarantee specified in Subpart H of Parts 264 and 265, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: _____. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____.] [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and postclosure care, fill in the following four paragraphs regarding facilities and associated closure and postclosure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA identification number, name, address, and current closure and/or postclosure cost estimates. Identify each cost estimate as to whether it is for closure or postclosure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or postclosure care or liability coverage is demonstrated through the financial test specified in Subpart H of Parts 264 and 265. The current closure and/or postclosure cost estimate covered by the test are shown for each facility: _____.

2. The firm identified above guarantees, through the guarantee specified in Subpart H of Parts 264 and 265, the closure and postclosure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for closure or postclosure care so guaranteed are shown for each facility: _____.

3. In states outside of South Carolina, where the United States Environmental Protection Agency or some designated authority is not administering the financial responsibility requirements of subpart H of parts 264 and 265, this firm is demonstrating financial assurance for the closure or postclosure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in R.61-79 Subpart H Parts 264 and 265. The current closure or postclosure estimates covered by such a test or guarantee are shown for each facility: _____. (6/89)

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, postclosure care, is not demonstrated to the Department through the financial test or any other financial assurance mechanisms specified in Subpart H of Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or postclosure cost estimates not covered by such financial assurance are shown for each facility: _____.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in part A if you are using the financial test to demonstrate coverage only for the liability requirements.]

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of Section 264.147 or Section 265.147 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of Section 264.147 or Section 265.147 are used.]

Alternative I

	1.	Amount of annual aggregate liability coverage to be demonstrated.	$ _____
*	2.	Current assets.	$ _____
*	3.	Current liabilities.	$ _____
	4.	Net working capital (line 2 minus line 3).	$

* 5. Tangible net worth. $ _____

* 6. If less than 90% of assets are located in the U.S., given total U.S. assets. $ _____

	Yes	No
7. Is line 5 at least $10 million?		
8. Is line 4 at least 6 times line 1?		
9. Is line 5 at least 6 times line 1?		
* 10. Are at least 90% of assets located in the U.S.? If not, complete line 11.		
11. Is line 6 at least 6 times line 1?		

Alternative II

1. Amount of annual aggregate liability coverage to be demonstrated. $ _____
2. Current bond rating of most recent issuance and name of rating service. _____
3. Date of issuance of bond. _____
4. Date of maturity of bond. _____

* 5. Tangible net worth. $ _____

* 6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.). $ _____

	Yes	No
7 .Is line 5 at least $10 million?		
8. Is line 5 at least 6 times line 1?		
9.Are at least 90% of assets located in the U.S.? If not, complete line 10.		
10. Is line 6 at least 6 times line 1?		

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or postclosure care.]

Part B. Closure or Postclosure Care and Liability Coverage

[Fill in Alternative I if the criteria of paragraphs (f)(1)(i) of Section 264.143 or Section 264.145 and (f)(1)(i) of Section 264.147 are used or if the criteria of paragraphs (e)(1)(i) of Section 265.143 or Section 265.145 and (f)(1)(i) of Section 265.147 are used. Fill in Alternative II if the criteria of paragraphs (f)(1)(ii) of Section 264.143 or Section 264.145 and (f)(1)(ii) of Section 264.147 are used or if the criteria of paragraphs (e)(1)(ii) of Section 265.143 or Section 265.145 and (f)(1)(ii) of Section 265.147 are used.]

Alternative I

1. Sum of current closure and postclosure cost estimates (total of all cost estimates listed above). _____
2. Amount of annual aggregate liability coverage to be demonstrated. $ _____
3. Sum of lines 1 and 2. $ _____

* 4. Total liabilities (if any portion of your closure or postclosure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6). $ _____

5. Tangible net worth. $ _____

* 6. Net worth. $ _____

* 7. Current assets. $ _____

* 8. Current liabilities. $ _____

9. Net working capital (line 7 minus line 8). $ _____

* 10. The sum of net income plus depreciation, depletion, and amortization. $ _____

* 11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.). $ _____

	Yes	No
12. Is line 5 at least $10 million?		
13. Is line 5 at least 6 times line 3?		
14. Is line 9 at least 6 times line 3?		
15. Are at least 90% of assets located in the U.S.? If not, complete line 16.		
16. Is line 11 at least 6 times line 3?		
17. Is line 4 divided by line 6 less than 2.0?		
18. Is line 10 divided by line 4 greater than 0.1?		
19. Is line 7 divided by line 8 greater than 1.5?		

Alternative II

1. Sum of current closure and postclosure cost estimates (total of all cost estimates listed above). $ _____
2. Amount of annual aggregate liability coverage to be demonstrated. $ _____
3. Sum of lines 1 and 2. $ _____
4. Current bond rating of most recent issuance and name of rating service. _____
5. Date of issuance of bond. _____
6. Date of maturity of bond. _____

* 7. Tangible net worth (if any portion of the closure or postclosure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line). $ _____

* 8. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.). $ _____

	Yes	No
9. Is line 7 at least $10 million?		
10. Is line 7 at least 6 times line 3?		
* 11. Are at least 90% of assets located in the U.S.? If not, complete line 12.		
12. Is line 8 at least 6 times line 3?		

I hereby certify that the wording of this letter is identical to the wording specified in 264.151(g) as such regulations were constituted on the date shown immediately below.

[Signature]_____

[Name] _____

[Title] _____

[Date] _____

264.151 Appendix H (1)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

H - (1): Corporate Guarantee

Corporate Guarantee for Closure or Postclosure Care

Guarantee made this _____ (date) by [name of guaranteeing entity], a business corporation organized under the laws of the State of South Carolina, herein referred to as guarantor.

This guarantee is made on behalf of the [owner or operator] of [business address], which is [one of the following: "our subsidiary"; "a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary"; or "an entity with which guarantor has a substantial business relationship, as defined in R.61-79 [either 264.141(h) or 265.141(h)]" to the Department

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in R. 61-79.264 Section 264.143(f), 264.145(f), 265.143(e), and 265.145(e).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, postclosure care, or both.]

3. "Closure plans" and "postclosure plans" as used below refer to the plans maintained as required by Subpart G of R.61-79.264 and R.61-79.265 for the closure and postclosure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to the Department that in the event that [owner or operator] fails to perform [insert "closure," "postclosure care" or "closure and postclosure care"] of the above facility(ies) in accordance with the closure or postclosure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Subpart H of R.61-79.264 and R.61-79.265, as applicable, in the name of [owner or operator] in the amount of the current closure or postclosure cost estimates as specified in Subpart H of R.61-79.264 and R.61-79.265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Department and to EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located and to [owner or operator] that he intends to provide alternate financial assurance as specified in Subpart H of R.61-79.264 and R.61-79.265, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the Department by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding. (6/89)

7. Guarantor agrees that within 30 days after being notified by the Department of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or postclosure care, he shall establish alternate financial assurance as specified in Subpart H of R. 61-79.264 or R. 61-79.265, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or postclosure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or postclosure, or any other modification or alteration of an obligation of the owner or operator pursuant to R. 61-79.264 or R. 61-79.265.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of Subpart H of R. 61-79.264 and R. 61-79.265 for the above listed facilities, except as provided in paragraph 10 of this agreement.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Subpart H of R. 61-79.264 or R. 61-79.265, as applicable, and obtain written approval of such assurance from the Department within 90 days after a notice of cancellation by the guarantor is received by the Department from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the Department or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or postclosure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in R.61-79.264.151(h) as such regulations were constituted on the date first above written.

Effective date: _____

[Name of guarantor] _____

[Authorized signature for guarantor] _____

[Name of person signing] _____

[Title of person signing] _____

[Signature of witness or notary: _____

264.151 Appendix H (2)

Guarantee for Liability Coverage (12/93)

Guarantee made this _____ [date] by _____ [name of guaranteeing entity], a business corporation organized under the laws of the State of South Carolina, herein referred to as guarantor. This guarantee is made on behalf of [owner or operator] of [business address], which is one of the following: "our subsidiary;" "a subsidiary of [name and address of common parent corporation], of which guarantor is a subsidiary;" or "an entity with which guarantor has a substantial business relationship, as defined in R.61-79 [either 264.141(h) or 265.141(h)]", to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in R.61-79.264.147(g) and R.61-79.265.147(g).

2. [Owner or operator] _____ owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each State]. This corporate guarantee satisfies RCRA third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from _____ [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the Department and to _____ [owner or operator] that he intends to provide alternate liability coverage as specified in R.61-79.264.147 and 265.147 as applicable, in the name of _____ [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless _____ [owner or operator] has done so.

6. The guarantor agrees to notify the Department by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by the Department of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in R.61-79.264.147 or 265.147 in the name of _____ [owner or operator], unless _____ [owner or operator] has done so.

8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by R.61-79.264.147 and 265.147, provided that such modification shall become effective only if a the Department does not disapprove the modification within 30 days of receipt of notification of the modification.

9. Guarantor agrees to remain bound under this guarantee for so long as _____ [owner or operator] must comply with the applicable requirements of R.61-79.264.147 and R.61-79.265.147 for the above-listed facility(ies), except as provided in paragraph 10 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the Department and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the Department approve alternate liability coverage complying with R.61-79.264.147 and/or R.61-79.265.147.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the Department and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Principal _____
(Notary) Date _____
[Signatures]
Claimant(s) _____
(Notary) Date _____

(b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert primary or excess] coverage.

I hereby certify that the wording of this guarantee is identical to the wording specified in R.61-79.264(h)(2) as such regulations were constituted on the date shown immediately below.

Effective date: _____
[Name of guarantor] _____
[Authorized signature for guarantor] _____
[Name of person signing] _____
[Title of person signing] _____
[Signature of witness or notary]:_____

264.151 Appendix I

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Liability Requirements; Endorsements
Hazardous Waste Facility Liability Endorsement

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for _____ [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences;" if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are _____ [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 264.147(f) or 265.147(f).

(c) Whenever requested by the department, the Insurer agrees to furnish to the department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice

and only after the expiration of 60 days after a copy of such written notice is received by the department.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department.

Attached to and forming part of policy No. _____ issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this _____ day of _____, 19___. The effective date of said policy is _____ day of _____, 19___.

I hereby certify that the wording of this endorsement is identical to the wording specified in 264.151(i) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representatives of Insurer]
_____
[Type name] _____
[Title], Authorized Representatives of [name of Insurer]
_____
[Address of Representative] _____

264.151 Appendix J

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Liability Requirements; Certificate

(1) Hazardous Waste Facility Certificate of Liability Insurance

1. _____ [Name of Insurer], _____ (the "Insurer"), of _____ [address of insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to _____ [name of insured], (the "insured"), of _____ [address of insured] in connection with insured's obligation to demonstrate financial responsibility under R.61-79.264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for _____ [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences;" if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are _____ [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on _____ [date]. The effective date of said policy is _____ [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in R.61-79.264.147(f) and 265.147(f).

(c) Whenever requested by the department, the Insurer agrees to furnish to the department a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the department.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Department.

I hereby certify that the wording of this instrument is identical to the wording specified in 264.151(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]
_____
[Type name] _____
[Title], Authorized Representative of [name of Insurer]
_____
[Address of Representative] _____
_

264.151 Appendix K

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 12/94; 5/96; 8/00)

Irrevocable Standby Letter of Credit

Chief
Bureau of Land and Waste Management
2600 Bull Street
Columbia, SC 29201

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. _____ in the favor of ["any and all third-party liability claimants" or insert name of trustee of the standby trust fund], at the request and for the account of [owner or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $_____ per occurrence and the annual aggregate amount of [in words] U.S. dollars $_____, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $ _____ per occurrence, and the annual aggregate amount of [in words] U.S. dollars $ _____, for nonsudden accidental occurrences available upon presentation of a sight draft bearing reference to this letter of credit No. _____, and [insert the following language if the letter of credit is being used without a standby trust fund:]" (1) a signed certificate reading as follows:

CERTIFICATE OF VALID CLAIM

The undersigned, as parties [insert principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of _____. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]
Grantor _____
[Signatures]
Claimant(s) _____

or (2) a valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify the you, the Department, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

[Insert the following language if a standby trust fund is not being used: "In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess" coverage]."

We certify that the wording of this letter of credit is identical to the wording specified in 264.151(k) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]
[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce," or "the Uniform Commercial Code"].

264.151 Appendix L

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Payment Bond

Surety Bond No. [Insert number] _____

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number, name, and address for each facility guaranteed by this bond:

	Sudden accidental occurrences	Nonsudden accidental occurrences
Penal Sum Per Occurrence.	[insert amount]	[insert amount]
Annual Aggregate	[insert amount]	[insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) SC Hazardous Waste Management Act 44-56 *et seq*. and Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.

(2) Rules and regulations of the Department of Health and Environmental Control, particularly R.61-79.264.147" or "265.147"] (if applicable).

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal _____
[Notary] Date _____
[Signature(s)]
Claimant(s) _____
[Notary] Date _____

or *(b)* A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Department forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the Department, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Department, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the Department.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10)This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 264.151(1), as such regulations were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)] _____
[Name(s)] _____
[Title(s)] _____
[Corporate Seal] _____

CORPORATE SURETY[IES]

[Name and address] _____
State of incorporation: _____
Liability Limit: $_____
[Signature(s)] _____
[Name(s) and title(s)] _____
[Corporate seal] _____

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $_____

264.151 Appendix M (1)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Trust Agreement

Trust Agreement, the Agreement, entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert corporation, partnership, association, or proprietorship], the Grantor, and [name of corporate trustee], [insert, incorporated in the State of _____ or a national bank], the trustee.

Whereas, the Department, an agency of the State of South Carolina Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term Grantor means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term Trustee means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, hereinafter the Fund, for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to $1 million] per occurrence and _____ [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert primary or excess] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantors] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures] _____
Grantor
[Signatures] _____
Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantors facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 *et seq.*, including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any

action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustees acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantors orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by a representative of the Department, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 15. Notice of Nonpayment. If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five (5) working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equaling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the Department.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Department will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of South Carolina.

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 264.151(m) as such regulations were constituted on the date first above written.

_____
[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]

_____
[Signature of Trustee]
Attest:
[Title]
[Seal]

264.151 Appendix M (2)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Certification of Acknowledgement

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

264.151 Appendix N (1)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Standby Trust Agreement

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of a State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the State of _____" or "a national bank"], the "trustee."

Whereas the South Carolina Department of Health and Environmental Control, "the Department", an agency of the State of South Carolina Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a standby trust into which the proceeds from a letter of credit may be deposited to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term Grantor means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term Trustee means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a standby trust fund, hereafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of _____ [up to $1 million] per occurrence and _____ [up to $2 million] annual aggregate for sudden accidental occurrences and _____ [up to $3 million] per occurrence and _____ [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee or [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the proceeds of the letter of credit deposited into the Fund. Such proceeds and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by drawing on the letter of credit described in Schedule B and by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Certification of Valid Claim

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantors] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[_____].

[Signature] _____
Grantor _____

[Signatures] _____
Claimant(s) _____

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantors facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of the proceeds from the letter of credit drawn upon by the Trustee in accordance with the requirements of 264.151(k) and Section 4 of this Agreement.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or a State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 *et seq*., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase

money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve Bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements to the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustees acceptance of the appointment; the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee. All orders, requests, certifications of valid claims, and instructions to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantors orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or the Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or the Department, except as provided for herein.

Section 14. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the Department, or by the Trustee and the Department if the Grantor ceases to exist.

Section 15. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department, or by the Trustee and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be paid to the Grantor.

The Department will agree to termination of the Trust when the owner or operator substitutes alternative financial assurance as specified in this section.

Section 16. Immunity and indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor and the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonable incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of South Carolina.

Section 18. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation of the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 264.151(n) as such regulations were constituted on the date first above written.

_____
[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]

_____
[Signature of Trustee]
Attest:
[Title]
[Seal]

264.151 Appendix N (2)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL
BUREAU OF LAND AND WASTE MANAGEMENT
(12/93; 5/96; 8/00)

Certification of Acknowledgement

State of_____
County of_____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

264.152 - .154 [Removed 6/03]

Subpart I - Use and Management of Containers

264.170 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as 264.1 provides otherwise.

[Comment: Under 261.7 and 261.33(c), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is empty as defined in 261.7. In that event, management of the container is exempt from the requirements of this subpart.] (12/92)

264.171 Condition of containers

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part. (12/92)

264.172 Compatibility of waste with containers

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

264.173 Management of containers

(5/93)

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(c) Each container containing hazardous waste shall be permanently and legibly marked with the following or equivalent statement: Hazardous Waste - federal law prohibits improper disposal." (6/97)

(d) Each container shall be appropriately labeled with EPA hazardous waste number.

[Comment: Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.] (12/92)

264.174 Inspections

At least weekly, the owner or operator must inspect areas where containers are stored. The owner or operator must look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. [Comment: See 264.15(c) and 264.171 for remedial action required if deterioration or leaks are detected.] (12/92, 6/08)

264.175 Containment

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows: (11/90)

(1) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(4) Runon into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any runon which might enter the system; and

(5) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. (12/93)

[Comment: If the collected material is a hazardous waste under 261, it must be managed as a hazardous waste in accordance with all applicable requirements of parts 262 through 266. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.] (12/92)

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, except as provided by paragraph (d) of this section or provided that:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or,

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) Storage areas that store containers holding the wastes listed below that do not contain free liquids must have a containment system defined by paragraph (b) of this section:

(1) FO20, FO21, FO22, FO23, FO26, and FO27.

(2) [Reserved]

264.176 Special requirements for ignitable or reactive waste

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line. [Comment: See 264.17(a) for additional requirements.] (12/92)

264.177 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same container, unless 264.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material. [Comment: As required by 264.13, the waste analysis plan must include analyses needed to comply with 264.177. Also, 264.17(c) requires wastes analyses, trial tests or other documentation to assure compliance with 264.17(b). As required by 264.73, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.] (12/92)

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this section is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.] (12/92)

264.178 Closure

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with 261.3(d) that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266]. (12/92)

264.179 Air emission standards

The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part. (9/98)

Subpart J - Tank Systems

264.190 Applicability

The requirements of this subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in 264.1 (12/92).

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in 264.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA Publication SW-846, as incorporated by reference in R.61-79.260.11. (11/90; 12/93)

(b) Tank systems, including sumps, as defined in R.61-79.260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in 264.193(a). (11/90)

(c) Tanks, sumps, and other such collection devices or systems used in conjunction with drip pads, as defined in 260.10 and regulated under part 264 subpart W, must meet the requirements of this subpart. (12/92)

264.191 Assessment of existing tank system's integrity

(a) For each existing tank system that does not have secondary containment meeting the requirements of 264.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by a qualified Professional Engineer, in accordance with R.61-79.270.11(d), that attests to the tank system’s integrity by January 12, 1988. (12/92, 6/08)

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been and will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects, and

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination that is certified by a qualified Professional Engineer in accordance with R.61-79.270.11(d), that addresses cracks, leaks, corrosion, and erosion. (6/08)

[Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks, 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.] (12/92)

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of 264.196.

264.192 Design and installation of new tank systems or components

(a) Owners or operators of new tank systems or components must obtain and submit to the Department at time of submittal of Part B information, a written assessment, reviewed and certified by a qualified Professional Engineer, in accordance with R.61-79.270.11(d) attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Department to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information: (11/90, 6/08)

(1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

(2) Hazardous characteristics of the waste(s) to be handled;

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Existence of stray electric current;

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following: (11/90)

(A) Corrosion-resistant materials of construction such as special alloys, fiberglass reinforced plastic, etc.;

(B) Corrosion-resistant coating (such as epoxy, fiberglass, etc.) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints, flanges, etc. (11/90)

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the American Petroleum Institute (API) Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in providing corrosion protection for tank systems.] (12/92)

(4) For underground tank system components that are likely to be adversely affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and (11/90)

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgment where the tank system is placed in a saturated zone, or is located within a seismic fault zone subject to the standards of 264.18(a); and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified, installation inspector or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction/installation. All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

[Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), Installation of Underground Petroleum Storage Systems, or ANSI Standard B31.3, Petroleum Refinery Piping, and ANSI Standard B31.4 Liquid Petroleum Transportation Piping System, may be used, where applicable, as guidelines for proper installation of piping systems.] (12/92)

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under paragraph (a)(3) of this section, or other corrosion protection if the Department believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section, were performed. These written statements must also include the certification statement as required in R.61-79.270.11(d).

264.193 Containment and detection of releases

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new and existing tank systems or components, prior to their being put into service;

(2) For tank systems that store or treat materials that become hazardous wastes within two years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later. (12/92, 6/08)

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Department that existing detection technologies or site conditions will not allow detection of a release within 24 hours; and

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the Department that removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

[Note: If the collected material is a hazardous waste under R.61-79.261, it is subject to management as a hazardous waste in accordance with all applicable requirements of R.61-79.262 through R.61-79.266. If the collected material is discharged through a point

source to waters of the State, it is subject to the requirements of SC Pollution Control Act and sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to a Publicly Owned Treatment Works (POTW), it is subject to the SC Pollution Control Act and the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the SC Pollution Control Act and the reporting requirements of 40 CFR part 302.] (12/92)

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as approved by the Department.

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent runon or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain runon or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event.

(iii) Free of cracks or gaps; and

(iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent runon or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain runon or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under R.61-79.261.21; or

(B) Meets the definition of reactive waste under R.61-79.261.23, and may form an ignitable or explosive vapor. (11/90)

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Department and the Department concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

[Note: The provisions outlined in the Steel Tank Institutes (STI) Standard for Dual Wall Underground Steel Storage Tanks may be used as guidelines for aspects of the design of underground steel double-walled tanks.] (12/92)

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Above-ground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and (11/90)

(4) Pressurized aboveground piping systems with automatic shutoff devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shutoff devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this section if the Department finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the groundwater; or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be

posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the Department will consider:

(i) The nature and quantity of the wastes;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and groundwater; and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(2) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the Department will consider:

(i) The potential adverse effects on groundwater, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on groundwater quality, taking into account:

(A) The quantity and quality of groundwater and the direction of groundwater flow,

(B) The proximity and withdrawal rates of groundwater users,

(C) The current and future uses of groundwater in the area, and

(D) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of groundwater and the direction of groundwater flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of 264.196, except paragraph (d), and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

(B) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirement of 264.197(b).

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of 264.196 (a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if groundwater has been contaminated, the owner or operator must comply with the requirements of 264.197(b); and

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from

secondary containment and meet the requirements for new tank systems in 264.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and groundwater or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Department must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule: (12/93)

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section.

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation. (11/90)

(2) As part of the notification, the owner or operator must also submit to the Department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section;

(3) The demonstration for a variance must be completed within 180 days after notifying the Department of an intent to conduct the demonstration; and

(4) If a variance is granted under this paragraph, the Department will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(i) All tank systems, until such time as secondary containment that meets the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of 264.191(b)(5) or other tank integrity method, as approved or required by the Department must be conducted at least annually.

(2) For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in paragraph (i)(1) of this section or develop a schedule and procedure for an assessment of the overall condition of the tank system by a qualified Professional Engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated. (6/08)

(3) For ancillary equipment, a leak test or other integrity assessment as approved by the Department must be conducted at least annually.

[Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refinery Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks, 4th edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.] (12/92)

(4) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(5) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of 264.196.

264.194 General operating requirements

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of 264.196 if a leak or spill occurs in the tank system.

264.195 Inspections

(a) The owner or operator must develop and follow a schedule and procedure for inspecting overfill controls.

(b) The owner or operator must inspect at least once each operating day data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design.

[Note: Section 264.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 264.196 requires the owner or operator to notify the Department within 24 hours of confirming a leak. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release.] (12/92)

(*c*) In addition, except as noted under paragraph (d) of this section, the owner or operator must inspect at least once each operating day:

(1) Above ground portions of the tank system, if any, to detect corrosion or releases of waste.

(2) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (*e.g.*, dikes) to detect erosion or signs of releases of hazardous waste (*e.g.*, wet spots, dead vegetation).

(*d*) Owners or operators of tank systems that either use leak detection systems to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly those areas described in paragraphs (c)(1) and (c)(2) of this section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(e) [Reserved]

(*f*) Ancillary equipment that is not provided with secondary containment, as described in 264.193(f)(1) through (4), must be inspected at least once each operating day.

(g) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

[Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the American Petroleum Institute (API) Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in maintaining and inspecting cathodic protection systems.] (12/92)

(h) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) through (c) of this section. (6/08)

264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system.

(1) If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed. (12/92)

(2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Department within 24 hours of its detection. If the release has been reported pursuant to 40 CFR part 302, that report will satisfy this requirement. (12/92)

(2) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Department:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Department as soon as they become available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed in accordance with 264.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of 264.193 before it can be returned to service, unless the source of the leak is an above-ground portion of a tank system that can be inspected visually. If the source is an above-ground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with 264.193 prior to being returned to use.

(f) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (*e.g.*, installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by a qualified Professional Engineer in accordance with R.61-79.270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be placed in the operating record and maintained until closure of the facility.

[Note: The Department may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under S.C. 48-1-50, or 44-56-130, or 44-56-140, or 44-56-50, or under RCRA section 3004(v), 3008(h), or 7003(a) requiring corrective action or such other response as deemed necessary to protect human health or the environment. (12/92)]

[Note: See 264.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of certain releases.] (12/92)

264.197 Closure and postclosure care

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless R.61-79.261.3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subparts G and H of this part. (12/93)

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills (section 264.310). In addition, for the purposes of closure, postclosure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part. (12/93)

(c) If an owner or operator has a tank system that does not have secondary containment that meets the requirements of 264.193 (b) through (f) and has not been granted a variance from the secondary containment requirements in accordance with 264.193(g), then:

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent postclosure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and postclosure care must reflect the costs of complying with the contingent closure plan and the contingent postclosure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and postclosure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, postclosure, and financial responsibility requirements for landfills under subparts G and H of this part.

264.198 Special requirements for ignitable or reactive wastes

(a) Ignitable or reactive waste must not be placed in tank systems, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under R.61-79.261.21 or 261.23, and

(ii) Section 264.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see 260.11).

264.199 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank system, unless 264.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless 264.17(b) is complied with.

264.200 Air emission standards

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subparts AA, BB, and CC of this part. (9/98)

Subpart K - Surface Impoundments

264.220 Applicability

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as 264.1 provides otherwise.

264.221 Design and operating requirements

(a) Any surface impoundment that is not covered by paragraph (c) of this section or R.61-79.265.221 must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with 264.228(a)(1). For impoundments that will be closed in accordance with 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see section 264.93) into the groundwater or surface water at any future time. In making such demonstration, the owner or operator shall consider: (12/93)

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and groundwater or surface water; and (11/90)

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) The owner or operator of each new surface impoundment unit on which construction commences after January 29, 1992, each lateral expansion of a surface impoundment unit on which construction commences after July 29, 1992 and each replacement of an existing surface impoundment unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system between such liners. "Construction commences" is as defined in 260.10 under "existing facility". (11/90; 12/92; 12/93)

(1) (i) The liner system must include: (12/93)

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1x10^{-7}$/cm/sec.

(ii) The liners must comply with paragraphs (a) (1), (2), and (3) of this section.

(2) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum: (12/93)

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of $1x10/^{-1}$/cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10/^{-4}/m^2$sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the surface impoundment and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes and any waste cover materials or equipment used at the surface impoundment;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(3) The owner or operator shall collect and remove pumpable liquids in the sumps to minimize the head on the bottom liner. (12/93)

(4) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water. (12/93)

(d) The Department may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Department that such design and operating practices, together with location characteristics: (12/93)

(1) Will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal system specified in paragraph (c) of this section; and (12/93)

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively. (12/93)

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Department for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the TCLP toxicity characteristics in R.61-79.261.24; and (11/90)

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph, the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, groundwater, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (c) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment, the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment will comply with appropriate postclosure requirements, including but not limited to groundwater monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an “underground source of drinking water”; and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under R.61-79, S.C. 44-56-60 or RCRA section 3005(c); (12/92) or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(f) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (c) of this section if: (12/93)

(1) The existing unit was constructed in compliance with the design standards of sections 3004 (o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) A surface impoundment must be designed, constructed, maintained, and operated to prevent overtopping resulting from normal or abnormal operations; overfilling; wind and wave action; rainfall; runon; malfunctions of level controllers, alarms, and other equipment; and human error. (12/93)

(h) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes, an outside protective cover to minimize erosion by wind and water. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit. (12/93)

(i) The owner or operator shall specify in the permit application all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(j) A surface impoundment shall be designed and constructed such that the bottom of any liner system or natural in-place barrier is at least five (5) feet above the seasonal high water table unless it can be demonstrated to the Department that adequate protection of the groundwater can be maintained at a lesser distance. (12/93)

264.222 Action leakage rate
(12/93)

(a) The Department shall approve an action leakage rate for surface impoundment units subject to 264.221 (c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under 264.226(d) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit is closed in accordance with section 264.228(b), monthly during the post-closure care period when monthly monitoring is required under section 264.226(d).

264.223 Response actions
(12/93)

(a) The owner or operator of surface impoundment units subject to section 264.221 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section.

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Department in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak

detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

264.224 - 264.225 [Reserved]

264.226 Monitoring and inspection

(a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from 264.221(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of overtopping control systems;

(2) Sudden drops in the level of the impoundment's contents; and

(3) Severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any extended period of time (at least six months) during which the impoundment was not in service, the owner or operator must obtain a certification from a registered engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(1) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(2) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(d) (1) An owner or operator required to have a leak detection system under 264.221 (c) or (d) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months. (12/93)

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. (12/93)

264.227 Emergency repairs; contingency plans

(a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; (12/92) or

(2) The dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) Immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) Immediately contain any surface leakage which has occurred or is occurring;

(3) Immediately stop the leak;

(4) Take any other necessary steps to stop or prevent catastrophic failure;

(5) If a leak cannot be stopped by any other means, empty the impoundment; and

(6) Notify the Department of the problem in writing within seven days after detecting the problem.

(c) As part of the contingency plan required in Subpart D of this part, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section. (12/93)

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with 264.226(c).

(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) For any existing portion of the impoundment, a liner must be installed in compliance with 264.221(a); and (12/93)

(ii) For any other portion of the impoundment, the repaired liner system must be certified by a registered engineer as meeting the design specifications specified in the permit application.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired must be closed in accordance with the provisions of 264.228.

264.228 Closure and postclosure care

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless R.61-79.261.3(d) applies; or

(2) (i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to: (6/89)

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the final cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all postclosure requirements contained in 264.117 through .120 including maintenance and monitoring throughout the postclosure care period (specified in the permit under 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with 264.221(c)(2)(iv) and (3) and 264.226(d), and comply with all other applicable leak detection system requirements of this part; (12/93)

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; and (12/93)

(4) Prevent runon and runoff from eroding or otherwise damaging the final cover. (moved 12/93)

(c) (1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of 264.221(a) and is not exempt from them in accordance with 264.221(b), then:

(i) The closure plan for the impoundment under 264.112 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and (12/93)

(ii) The owner or operator must prepare a contingent postclosure plan under 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure. (12/93)

(2) The cost estimates calculated under sections 264.142 and 264.144 for closure and postclosure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent postclosure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section. (12/93)

264.229 Special requirements for ignitable or reactive waste

Ignitable or reactive waste must not be placed in a surface impoundment.

264.230 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same surface impoundment, unless 264.17(b) is complied with. (12/93)

264.231 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Department pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Department may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment.

264.232 Air emission standards

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subparts BB and CC of this part. (9/98)

Subpart L - Waste Piles

264.250 Applicability

(a) The regulations in this subpart apply to owners and operators of facilities that store or treat hazardous waste in piles, except as section 264.1 provides otherwise. (12/93)

(b) The regulations in this subpart do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under subpart N of this part (Landfills). (12/93)

(c) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither runoff nor leachate is generated is not subject to regulation under 264.251 or under subpart F of this part, provided that: (12/93)

(1) Liquids or materials containing free liquids are not placed in the pile;

(2) The pile is protected from surface water runon by the structure or in some other manner;

(3) The pile is designed and operated to control dispersal of the waste by wind, where necessary, by means other than wetting; and

(4) The pile will not generate leachate through decomposition or other reactions.

264.251 Design and operating requirements

(a) A waste pile (except for an existing portion of a waste pile) must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the pile into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the waste pile. The liner may be constructed of materials that may allow waste to migrate into the liner itself (but not into the adjacent subsurface soil or groundwater or surface water) during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the pile. This system shall be designed and operated to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the pile and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and

(ii) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section, if the Department finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see section 264.93) into the groundwater or surface water at any future time. In making such demonstration, the owner or operator shall consider: (12/93)

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and groundwater or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) The owner or operator of each new waste pile unit, each lateral expansion of a waste pile unit and each replacement of an existing waste pile unit must install two or more liners and a leachate collection and removal system above and between such liners. (12/93, 6/08)

(1) (i) The liner system must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec.

(ii) The liners must comply with paragraphs (a)(1)(i), (ii), and (iii) of this section.

(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the waste pile during the active life and post-closure care period. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (c)(3)(iii) and (iv) of this section.

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum:

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of $1x10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10^{-5}$ m^2/sec or more:

(iii) Constructed of materials that are chemically resistant to the waste managed in the waste pile and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the waste pile;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner.

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water.

(d) The Department may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Department that such design and operating practices, together with location characteristics: (12/93)

(1) Will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively.

(e) Paragraph (c) of this section does not apply to monofills that are granted a waiver by the Department in accordance with 264.221(e). (12/93)

(f) The owner or operator of any replacement waste pile unit is exempt from paragraph (c) of this section if: (12/93)

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm. (12/93)

(h) The owner or operator must design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm. (12/93)

(i) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. (12/92; 12/93)

(j) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal. (12/93)

(k) The owner or operator shall specify in the permit application all design and operating practices that are

necessary to ensure that the requirements of this section are satisfied. (12/93)

264.252 Action leakage rate
(12/93)

(a) The Department shall approve an action leakage rate for waste pile units subject to 264.251(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under section 264.254(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

264.253 Response actions

(a) The owner or operator of waste pile units subject to 264.251 (c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section. (12/93)

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Department in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and long-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b) (3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b) (3), (4), and (5) of this section, the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

264.254 Monitoring and inspection

(a) During construction or installation, liners (except in the case of existing portions of piles exempt from 264.251(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of runon and runoff control systems; (12/92)

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c) An owner or operator required to have a leak detection system under section 264.251(c) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

264.255 [Reserved]

264.256 Special requirements for ignitable or reactive waste

Ignitable or reactive waste must not be placed in a waste pile.

264.257 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same pile, unless 264.17(b) is complied with. (12/93)

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with 264.17(b).

264.258 Closure and Postclosure Care

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless R.61-79.261.3(d) applies.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills (section 264.310). (11/90)

(c) (11/90)

(1) The owner or operator of a waste pile that does not comply with the liner requirements of 264.251(a)(1) and is not exempt from them in accordance with 264.250(c) or 264.251(b), must:

(i) Include in the closure plan for the pile under 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent postclosure plan under 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 264.142 and 264.144 for closure and postclosure care of a pile subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent postclosure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

264.259 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(11/90)

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in waste piles that are not enclosed (as defined in section 264.250(c)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Department pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are: (11/90)

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Department may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment.

Subpart M - Land Treatment

264.270 Applicability

The regulations in this subpart apply to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units, except as 264.1 provides otherwise.

264.271 Treatment program

(a) An owner or operator subject to this subpart must establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The owner or operator shall specify in the permit application the elements of the treatment program, including: (11/90)

(1) The wastes that are capable of being treated at the unit based on a demonstration under 264.272;

(2) Design measures and operating practices necessary to maximize the success of degradation,

transformation, and immobilization processes in the treatment zone in accordance with 264.273(a); and

(3) Unsaturated zone monitoring provisions meeting the requirements of 264.278.

(b) The owner or operator will specify in the permit application the hazardous constituents that must be degraded, transformed, or immobilized under this subpart. Hazardous constituents are constituents identified in Appendix VIII of R.61-79.261 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone. (12/93)

(c) The owner or operator will specify in his permit application the vertical and horizontal dimensions of the treatment zone. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be: (12/93)

(1) No more than 1.5 meters (5 feet) from the initial soil surface; and

(2) More than 1.5 meters (5 feet) above the seasonal high water table. (12/93)

264.272 Treatment demonstration

(a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under paragraph (a) of this section, he must obtain a treatment or disposal permit under R.61-79.270.63. The owner or operator shall specify in his application for this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and cleanup activities) necessary to meet the requirements in paragraph (c) of this section.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under paragraph (a) of this section must:

(1) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(i) The characteristics of the waste (including the presence of Appendix VIII of R.61-79.261 constituents);

(ii) The climate in the area;

(iii) The topography of the surrounding area;

(iv) The characteristics of the soil in the treatment zone (including depth); and

(v) The operating practices to be used at the unit.

(2) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(3) Be conducted in a manner that protects human health and the environment considering:

(i) The characteristics of the waste to be tested;

(ii) The operating and monitoring measures taken during the course of the test;

(iii) The duration of the test;

(iv) The volume of waste used in the test;

(v) In the case of field tests, the potential for migration of hazardous constituents to groundwater or surface water.

264.273 Design and operating requirements

The owner or operator will specify in the facility permit application how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section. (12/93)

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under 264.272. At a minimum, the owner or operator will specify the following in the facility permit application: (12/93)

(1) The rate and method of waste application to the treatment zone;

(2) Measures to control soil pH;

(3) Measures to enhance microbial or chemical reactions (e.g., fertilization, tilling); and

(4) Measures to control the moisture content of the treatment zone.

(b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize runoff of hazardous constituents during the active life of the land treatment unit.

(c) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control

systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

(f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

(g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:

(1) Deterioration, malfunctions, or improper operation of runon and runoff control systems; and

(2) Improper functioning of wind dispersal control measures.

264.274 - 264.275 [Reserved]

264.276 Foodchain crops

The Department may allow the growth of foodchain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The owner or operator will specify in the facility permit application the specific foodchain crops which he intends to grow and necessary documentation of the following: (12/93)

(a) (1) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(i) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by foodchain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The owner or operator must make the demonstration required under this paragraph prior to the planting of crops at the facility for all constituents identified in Appendix VIII of R.61-79.261 that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) In making a demonstration under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(i) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (e.g., pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(ii) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this paragraph, he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(1) (i) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other foodchain crops, the annual cadmium application rate must not exceed:

TIME PERIOD	Annual Cd application rate (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste must not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(iv) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100g; 10 kg/ha if soil CEC is 5 - 15 meq/100g; and 20 kg/ha if soil CEC is greater than 15 meq/100g; or

(2) (i) Animal feed must be the only foodchain crop produced;

(ii) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever foodchain crops are grown;

(iii) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

(iv) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that foodchain crops must not be grown except in compliance with paragraph (b)(2) of this section.

264.277 [Reserved]

264.278 Unsaturated zone monitoring.

An owner or operator subject to this subpart must establish an unsaturated zone monitoring program to discharge the following responsibilities:

(a) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(1) The owner or operator will monitor for those hazardous constituents specified under 264.271(b). (12/93)

(2) The Department may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under section 264.271(b). PHCs are hazardous constituents contained in the wastes to be applied at the unit that are the most difficult to treat, considering the combined effects of degradation, transformation, and immobilization. The Department will establish PHCs if it finds, based on waste analyses, treatment demonstrations, or other data, that effective degradation, transformation, or immobilization of the PHCs will assure treatment at least equivalent levels for the other hazardous constituents in the wastes. (12/93)

(b) The owner or operator must install an unsaturated zone monitoring system that includes soil monitoring using soil cores and soil-pore liquid monitoring using devices such as lysimeters. The unsaturated zone monitoring system must consist of a sufficient number of sampling points at appropriate locations and depths to yield samples that:

(1) Represent the quality of background soil-pore liquid quality and the chemical makeup of soil that has not been affected by leakage from the treatment zone; and

(2) Indicate the quality of soil-pore liquid and the chemical makeup of the soil below the treatment zone.

(c) The owner or operator must establish a background value for each hazardous constituent to be monitored under paragraph (a) of this section. The permit will specify the background values for each constituent or specify the procedures to be used to calculate the background values.

(1) Background soil values may be based on a one-time sampling at a background plot having characteristics similar to those of the treatment zone.

(2) Background soil-pore liquid values must be based on at least quarterly sampling for one year at a background plot having characteristics similar to those of the treatment zone.

(3) The owner or operator must express all background values in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(4) In taking samples used in the determination of all background values, the owner or operator must use an unsaturated zone monitoring system that complies with paragraph (b)(1) of this section.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The owner or operator will specify in the permit application the frequency and timing of soil and soil-pore liquid monitoring after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under paragraph (f) of this section. (12/93)

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical makeup of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under paragraph (a) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under paragraph (d) of this section, to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph. (12/92; 12/93)

(2) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The owner or operator will specify that time period in the facility permit application after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples. (12/92; 12/93)

(3) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that is approved by the Department and that provides reasonable confidence that migration from the treatment zone will be identified. The owner or operator will specify in the permit application a statistical procedure that: (12/93)

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(1) Notify the Department of this finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases.

(2) Within 90 days, submit to the Department an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(3) Discontinue all land treatment in the contaminated area as determined in (f) until corrective measures can be taken.

(h) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Department in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this paragraph;

(2) Within 90 days, submit a report to the Department demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Department an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

264.279 Recordkeeping

The owner or operator must include hazardous waste application dates and rates in the operating record required under 264.73.

264.280 Closure and postclosure care

(a) During the closure period the owner or operator must:

(1) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under 264.273(a), except to the extent such measures are inconsistent with paragraph (a)(8) of this section.

(2) Continue all operations in the treatment zone to minimize runoff of hazardous constituents as required under 264.273(b);

(3) Maintain the runon control system required under 264.273(c);

(4) Maintain the runoff management system required under 264.273(d);

(5) Control wind dispersal of hazardous waste if required under 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under 264.276;

(7) Continue unsaturated zone monitoring in compliance with 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(8) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with 264.115, when closure is completed the owner or operator may submit to the Department certification by an independent, qualified soil scientist, in lieu of a qualified Professional Engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the postclosure care period the owner or operator must:

(1) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other postclosure care activities;

(2) Maintain a vegetative cover over closed portions of the facility;

(3) Maintain the runon control system required under 264.273(c);

(4) Maintain the runoff management system required under 264.273(d);

(5) Control wind dispersal of hazardous waste if required under 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under 264.276; and

(7) Continue unsaturated zone monitoring in compliance with 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under paragraphs (a)(8) and (c) of this section if the Department finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (d)(3) of this section. The owner or operator may submit such a demonstration to the Department at any time during the closure or postclosure care periods. For the purposes of this paragraph: (12/93)

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under 264.271(b).

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(ii) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under paragraph (d)(3) of this section.

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical makeup of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to regulation under subpart F if the Department finds that the owner or operator satisfies paragraph (d) of this section and if unsaturated zone monitoring under 264.278 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

264.281 Special requirements for ignitable or reactive waste

Ignitable or reactive wastes must not be treated or disposed in land treatment units.

264.282 Special requirements for incompatible wastes

The owner or operator must not place incompatible wastes, or incompatible wastes and materials (see Appendix V of this part for examples), in or on the same treatment zone, unless 264.17(b) is complied with. (12/93)

264.283 Special requirements for hazardous wastes F020, F021, F022, F023, F026, and F027

(a) Hazardous Wastes F020, F021, F022, F023, F026 and F027 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Department pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are: (12/93)

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Department may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment.

Subpart N - Landfills

264.300 Applicability

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as 264.1 provides otherwise.

264.301 Design and operating requirements

(a) Any landfill that is not covered by paragraph (c) of this section or 265.301 (a) of this regulation must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or groundwater or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(ii) Designed and operated to function without clogging through the scheduled closure of the landfill.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Department finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see 264.93) into the groundwater or surface water at any future time. In deciding whether to grant an exemption, the Department will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and groundwater or surface water; and (11/90)

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to groundwater or surface water.

(c) The owner or operator of each new landfill unit on which construction commences after January 29, 1992, each lateral expansion of a landfill unit on which construction commences after July 29, 1992, and each replacement of an existing landfill unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners. "Construction commences" is as defined in 260.10 under "existing facility". (12/93)

(1) (i) The liner system must include:

(A) A top liner designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into such liner during the active life and post-closure care period; and (12/93)

(B) A composite bottom liner, consisting of at least two components. The upper component must be designed and constructed of materials (e.g., a geomembrane) to prevent the migration of hazardous constituents into this component during the active life and post-closure care period. The lower component must be designed and constructed of materials to minimize the migration of hazardous constituents if a breach in the upper component were to occur. The lower component must be constructed of at least 3 feet (91 cm) of compacted soil material with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. (12/93)

(ii) The liners must comply with paragraphs (a)(1) (i), (ii), and (iii) of this section. (12/93)

(2) The leachate collection and removal system immediately above the top liner must be designed, constructed, operated, and maintained to collect and remove leachate from the landfill during the active life and post-closure care period. The Department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must comply with paragraphs (c)(3) (iii) and (iv) of this section. (12/93)

(3) The leachate collection and removal system between the liners, and immediately above the bottom composite liner in the case of multiple leachate collection and removal systems, is also a leak detection system. This leak detection system must be capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time through all areas of the top liner likely to be exposed to waste or leachate during the active life and post-closure care period. The requirements for a leak detection system in this paragraph are satisfied by installation of a system that is, at a minimum: (12/93)

(i) Constructed with a bottom slope of one percent or more;

(ii) Constructed of granular drainage materials with a hydraulic conductivity of $1x10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more; or constructed of synthetic or geonet drainage materials with a transmissivity of $3X10\text{-}^{5}$ m^2/sec or more;

(iii) Constructed of materials that are chemically resistant to the waste managed in the landfill and the leachate expected to be generated, and of sufficient strength and thickness to prevent collapse

under the pressures exerted by overlying wastes, waste cover materials, and equipment used at the landfill;

(iv) Designed and operated to minimize clogging during the active life and post-closure care period; and

(v) Constructed with sumps and liquid removal methods (e.g., pumps) of sufficient size to collect and remove liquids from the sump and prevent liquids from backing up into the drainage layer. Each unit must have its own sump(s). The design of each sump and removal system must provide a method for measuring and recording the volume of liquids present in the sump and of liquids removed.

(4) The owner or operator shall collect and remove pumpable liquids in the leak detection system sumps to minimize the head on the bottom liner. (12/93)

(5) The owner or operator of a leak detection system that is not located completely above the seasonal high water table must demonstrate that the operation of the leak detection system will not be adversely affected by the presence of ground water. (12/93)

(d) The Department may approve alternative design or operating practices to those specified in paragraph (c) of this section if the owner or operator demonstrates to the Department that such design and operating practices, together with location characteristics: (12/93)

(1) Will prevent the migration of any hazardous constituent into the groundwater or surface water at least as effectively as the liners and leachate collection and removal systems specified in paragraph (c) of this section; and (12/93)

(2) Will allow detection of leaks of hazardous constituents through the top liner at least as effectively. (12/93)

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Department for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in R.61-79.261.24, with EPA Hazardous Waste Numbers D004 through D017; and (11/90)

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an "underground source of drinking water" (as that term is defined in Department regulation 61-68; and (12/93)

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under R.61-79.270, S.C. 44-56-60, or RCRA 3005(c); (12/92) or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(f) The owner or operator of any replacement landfill unit is exempt from paragraph (c) of this section if: (12/93)

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(g) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm. (12/93)

(h) The owner or operator must design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm. (12/93)

(i) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. These surface waters will be considered as hazardous unless upon analysis the material is determined not to be hazardous and may be discharged in accordance with a NPDES permit. (11/90; 12/93)

(j) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal. (12/93)

(k) The owner or operator will specify in the permit application all design and operating practices that are necessary to ensure that the requirements of this section are satisfied and include an estimate with justifying documentation of how long the facility shall be expected to meet the designed minimum technology requirements after closure. (12/93)

(l) The owner or operator of a landfill which is not exempt from the requirements of R.61-79.264 Subpart F pursuant to R.61-79.264.90(b) shall maintain at least ten feet of naturally occurring material with an average permeability of no more than 1E-06 centimeter per second directly beneath and in contact with the bottom of the constructed liner system as required under R.61-79.264.301(a) and (c). (6/95)

264.302 Action leakage rate

(a) The Department shall approve an action leakage rate for landfill units subject to 264.301(c) or (d). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding l foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location

of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.). (12/93)

(b) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under 264.303(c) to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under section 264.303(c).

264.303 Monitoring and inspection

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from 264.301 (a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of runon and runoff control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

(c) (1) An owner or operator required to have a leak detection system under 264.301(c) or (d) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump.

264.304 Response actions

(a) The owner or operator of landfill units subject to 264.301(c) or (d) must have an approved response action plan before receipt of waste. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section. (12/93)

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Department in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

264.305 - 264.308 [Reserved]

264.309 Surveying and recordkeeping

The owner or operator of a landfill must maintain the following items in the operating record required under 264.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(c) The date and volume or quantity of leachate which was withdrawn from the cells. (6/89).

264.310 Closure and postclosure care

(a) At final closure of the landfill or upon closure of any cell, (12/92) the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill; (12/93)

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all postclosure requirements contained in 264.117 through 264.120, including maintenance and monitoring throughout the postclosure care period (specified in the permit under 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Continue to operate the leachate collection and removal system until leachate is no longer detected;

(3) Maintain and monitor the leak detection system in accordance with section 264.301(c)(3)(iv) and (4) and 264.303(c), and comply with all other applicable leak detection system requirements of this part; (12/93)

(4) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; (12/93)

(5) Prevent runon and runoff from eroding or otherwise damaging the final cover; and (12/93)

(6) Protect and maintain surveyed benchmarks used in complying with 264.309. (12/93)

264.311 [Reserved]

264.312 Special requirements for ignitable or reactive waste

Except as provided in 264.316, ignitable or reactive waste must not be placed in a landfill.

264.313 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same landfill cell, unless 264.17(b) is complied with.

264.314 Special requirements for bulk and containerized liquids

(a) The placement of bulk or non containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited. (12/92; 12/93, 6/08)

(b) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in R.61-79.260.11. (12/93)

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) All freestanding liquid:

(i) has been removed by decanting, or other methods;

(ii) has been mixed with sorbent or solidified so that freestanding liquid is no longer observed; or (12/93)

(iii) has been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in 264.316 and is disposed of in accordance with 264.316.

(d) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (d)(1) of this section; materials that pass one of the tests in paragraph (d)(2) of this section; or materials that are determined by the

Department and EPA to be nonbiodegradable through the part 260 petition process.

(1) Nonbiodegradable sorbents.

(i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents.

(i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 (1984a)-Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)]. (9/98)

(e) The placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Department, or the Department determines, that: (12/92; 12/93, 6/08)

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and (11/90)

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in Department regulation R.61-68. (12/93)

264.315 Special requirements for containers

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed or buried in the landfill; or (6/95)

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before placement or burial in the landfill. (6/95).

264.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs)

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in nonleaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with 264.314(d), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after it has been packed with inside containers and sorbent material. (12/93)

(c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with 264.17(b). (12/93)

(d) Incompatible wastes, as defined in R.61-79.260.10, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in R.61-79.261.23(a)(5), must be treated or rendered nonreactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered nonreactive.

(f) Such disposal is in compliance with the requirements of part 268. Persons who incinerate lab packs according to the requirements in 268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section. (12/92)

264.317 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27

(a) Hazardous Wastes F020, F021, F022, F023, F026, and F027 must not be placed in a landfill unless the owner or operator operates the landfill in accord with a management plan for these wastes that is

approved by the Department pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are: (12/93)

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The Department may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes F020, F021, F022, F023, F026, and F027 in order to reduce the possibility of migration of these wastes to groundwater, surface water, or air so as to protect human health and the environment.

Subpart O - Incinerators

264.340 Applicability

(a) The regulations of this subpart apply to owners and operators of facilities that incinerate hazardous waste (as defined in 260.10), except as 264.1 provides otherwise. The following facility owners or operators are considered to incinerate hazardous waste: (12/93)

(1) Owners or operators of hazardous waste incinerators (as defined in R.61-79.260.10); and

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under this regulation.

(b) Integration of the MACT standards. (9/01, 6/03)

(1) Except as provided by paragraphs (b)(2)through (b)(4) of this section, the standards of this part do not apply to a new hazardous waste incineration unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, Subpart EEE, by conducting a comprehensive performance test and submitting to the Department a Notification of Compliance under 40 CFR 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR part 63, Subpart EEE.

(2) The MACT standards do not replace the closure requirements of 264.351 or the applicable requirements of subparts A through H, BB and CC of this part.

(3) The particulate matter standard of 264.343(c) remains in effect for incinerators that elect to comply with the alternative to the particulate matter standard under 40 CFR 63.1206(b)(14) and 63.1219(e).

(4) The following requirements remain in effect for startup, shutdown and malfunction events if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from these events; (6/03)

(i) 264.345(a) requiring that an incinerator operate in accordance with operating requirements as specified in the permit; and

(ii) 264.345(c) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes.

(c) After consideration of the waste analysis included with Part B of the permit application, the Department, upon demonstration by the owner or operator, must exempt the applicant from all requirements of this subpart except 264.341 (Waste Analysis) and 264.351 (Closure), (12/93, moved from (b), 6/03)

(1) If the Department finds that the waste to be burned is:

(i) Listed as a hazardous waste in part 261, Subpart D, solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(ii) Listed as a hazardous waste in part 261, Subpart D, solely because it is reactive (Hazard Code R) for characteristics other than those listed in 261.23(a)(4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under part 261, Subpart C,; or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by 261.23(a)(1), (2), (3), (6), (7), and (8), and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in part 261, Appendix VIII, which would reasonably be expected to be in the waste.

(d) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (ii), (iii), or (iv) of this section and contains insignificant concentrations of the hazardous constituents listed in 261, Appendix VIII, then the Department may, in establishing permit conditions, exempt the applicant from all requirements of this subpart, except 264.341 (Waste Analysis) and 264.351 (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Department finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(e) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of 270.62 (Short term and incinerator permits).

264.341 Waste analysis

(a) As a portion of the trial burn plan required by R.61-79.270.62, or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by R.61-79.270.19 or 270.62(b). Owners or operators of new hazardous waste incinerators must provide the information required by 270.62(c) or 270.19 270.62 to the greatest extent possible. (12/93)

(b) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit application (under 264.345(b)). (12/93)

264.342 Principal organic hazardous constituents (POHCs)

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of 264.343.

(b) (1) One or more POHCs will be specified in the owner's or operator's facility's permit application, from among those constituents listed in R.61-79.261, Appendix VIII, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste. (11/90; 12/93)

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in R.61-79.270.62 for obtaining trial burn permits. (12/93)

264.343 Performance standards

An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under 264.345, it will meet the following performance standards: (11/90)

(a) (1) Except as provided in paragraph (a)(2) of this section, an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under 264.342) in its permit application for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out})}{W_{in}} X\ 100\%$$

where:

W_{in} = mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator

and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous wastes F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under 264.342) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in 264.343(a)(1).

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula: $P_c = P_m \times \frac{14}{21 - Y}$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas presented in 40 CFR part 60, Appendix A (Method 3). This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these an appropriate correction procedure, to be specified in the facility permit application. (12/93)

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit application (under 264.345) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be "information" justifying modification, revocation, or reissuance of a permit under R.61-79.270.41. (12/93)

264.344 Hazardous waste incinerator permits under these regulations

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit application and only under operating conditions specified in his permit application for those wastes under 264.345, except:

(1) In approved trial burns under R.61-79.270.62; or

(2) Under exemptions created by 264.340.

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with Part B of a permit application under R.61-79.270.19. (12/93)

(c) The permit application for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this subpart, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of 264.345, sufficient to comply with the following standards: (12/93)

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of 264.343, based on the Department's engineering judgment. The Department may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant. (11/90)

(2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of 264.343 and must be in accordance with the approved trial burn plan; (11/90)

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Department, the operating requirements must be those most likely to ensure compliance with the performance standards of 264.343, based on the Department's engineering judgment. (11/90; 12/93)

(4) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in R.61-79.270.19(c) as sufficient to ensure compliance with the performance standards of 264.343. (11/90)

264.345 Operating requirements

(11/90)

(a) An incinerator must be operated in accordance with operating requirements specified in its permit application and as specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in 264.344(b) and included with Part B of a facility's permit application) to be sufficient to comply with the performance standards of 264.343. (11/90; 12/93)

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of 264.343) to which the operating requirements apply. For each such waste feed, the permit application will specify acceptable operating limits including the following conditions: (11/90; 12/93)

(1) Carbon monoxide (CO) level in the stack exhaust gas;

(2) Waste feed rate;

(3) Combustion temperature;

(4) An appropriate indicator of combustion gas velocity;

(5) Allowable variations in incinerator system design or operating procedures; and

(6) Such other operating requirements as are necessary to ensure that the performance standards of 264.343 are met.

(c) During startup and shutdown of an incinerator, hazardous waste (except wastes exempted in accordance with 264.340) must not be fed into the incinerator unless the incinerator is operating within the conditions of operation (temperature, air feed rate, etc.) specified in the permit application. (11/90)

(d) Fugitive emissions from the combustion zone must be controlled by:

(1) Keeping the combustion zone totally sealed against fugitive emissions; or

(2) Maintaining a combustion zone pressure lower than atmospheric pressure; or

(3) An alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(e) An incinerator must be operated with a functioning system to automatically cut off waste feed to the incinerator when operating conditions deviate from limits established under paragraph (a) of this section.

(f) An incinerator must cease operation when changes in waste feed, incinerator design, or operating conditions exceed limits designated in its permit application.

264.346 [Reserved]

264.347 Monitoring and inspections

(a) The owner or operator must conduct, as a minimum, the following monitoring while incinerating hazardous waste:

(1) Combustion temperature, waste feed rate, and the indicator of combustion gas velocity specified in the facility permit under these regulations must be monitored on a continuous basis. (11/90, 12/92)

(2) CO must be monitored on a continuous basis at a point in the incinerator downstream of the combustion zone and prior to release to the atmosphere.

(3) Upon request by the Department, sampling and analysis of the waste and exhaust emissions must be conducted to verify that the operating requirements established in the permit application achieve the performance standards of 264.343. (11/90; 12/93)

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Department that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating record required by 264.73 of this regulation and maintained in the operating record for five years.(6/08)

264.348 - 264.350 [Reserved]

264.351 Closure

At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 261.3(d), that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of parts 262 through 266.] (12/92)

Subpart P - R [Reserved]

Subpart S - Special Provisions for Cleanup

264.550 Applicability of Corrective Action Management Unit (CAMU) Regulations.
(6/03)

(a) Except as provided in paragraph (b) of this section, CAMUs are subject to the requirements of 264.552.

(b) CAMUs that were approved before April 22, 2002, or for which substantially complete applications (or equivalents) were submitted to the Agency on or before November 20, 2000, are subject to the requirements in 264.551 for grandfathered CAMUs; CAMU waste, activities, and design will not be subject to the standards in 264.552, so long as the waste, activities, and design remain within the general scope of the CAMU as approved.

264.551 Grandfathered Corrective Action Management Units (CAMUs)
(6/03)

(a) To implement remedies under 264.101 or RCRA Section 3008(h), or to implement remedies at a permitted facility that is not subject to 264.101, the owner or operator may designate an area at the facility as a corrective action management unit under the requirements of this section. Corrective action management unit means an area within a facility that is used only for managing remediation wastes for implementing corrective action or cleanup at the facility. A CAMU must be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. This request is subject to approval by the Department. One or more CAMUs may be designated at a facility. (8/00)

(b) (1) The owner or operator may request to designate a regulated unit (as defined in 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning it has begun the closure process under 264.113 or 265.113; and

(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(2) The subpart F, G, and H requirements and the unit-specific requirements of part 264 or 265 that applied to that regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(c) The owner or operator shall designate a CAMU in accordance with the following:

(1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;

(3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing remediation waste is more

protective than management of such wastes at contaminated areas of the facility;

(4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable;

(5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable;

(6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and

(7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(d) The owner/operator shall provide sufficient information to enable the Department to designate a CAMU in accordance with the criteria in 264.552.

(e) The Department shall specify, in the permit, requirements for CAMUs to include the following: The owner or operator shall specify in the permit application the following information for each CAMU:

264.552 Corrective Action Management Units (CAMU)

(6/03).

(a) To implement remedies under 264.101 or RCRA Section 3008(h), or to implement remedies at a permitted facility that is not subject to 264.101, the Department may designate an area at the facility as a corrective action management unit under the requirements in this section. Corrective action management unit means an area within a facility that is used only for managing CAMU-eligible wastes for implementing corrective action or cleanup at the facility. A CAMU must be located within the contiguous property under the control of the owner or operator where the wastes to be managed in the CAMU originated. One or more CAMUs may be designated at a facility.

(1) CAMU-eligible waste means:

(i) All solid and hazardous wastes, and all media (including ground water, surface water, soils, and sediments) and debris, that are managed for implementing cleanup. As-generated wastes (either hazardous or non-hazardous) from ongoing industrial operations at a site are not CAMU-eligible wastes.

(ii) Wastes that would otherwise meet the description in paragraph (a)(1)(i) are not "CAMU-Eligible Wastes" where:

(A) The wastes are hazardous wastes found during cleanup in intact or substantially intact containers, tanks, or other non-land-based units found above ground, unless the wastes are first placed in the tanks, containers or non-land-based units as part of cleanup, or the containers or tanks are excavated during the course of cleanup; or

(B) The Department exercises the discretion in paragraph (a)(2) to prohibit the wastes from management in a CAMU.

(iii) Notwithstanding paragraph (a)(1)(i), where appropriate, as-generated non-hazardous waste may be placed in a CAMU where such waste is being used to facilitate treatment or the performance of the CAMU.

(2) The Department may prohibit, where appropriate, the placement of waste in a CAMU where the Department has or receives information that such wastes have not been managed in compliance with applicable land disposal treatment standards of part 268, or applicable unit design requirements, or applicable unit design requirements of part 265, or that non-compliance with other applicable requirements likely contributed to the release of the waste.

(3) Prohibition against placing liquids in CAMUs.

(i) The placement of bulk or noncontainerized liquid hazardous waste or free liquids contained in hazardous waste (whether or not sorbents have been added) in any CAMU is prohibited except where placement of such wastes facilitates the remedy selected for the waste.

(ii) The requirements in 264.314(c) for placement of containers holding free liquids in landfills apply to placement in a CAMU except where placement facilitates the remedy selected for the waste.

(iii) The placement of any liquid which is not a hazardous waste in a CAMU is prohibited unless such placement facilitates the remedy selected for the waste or a demonstration is made pursuant to 264.314(e).

(iv) The absence or presence of free liquids in either a containerized or a bulk waste must be determined in accordance with 264.314(b). Sorbents used to treat free liquids in CAMUs must meet the requirements of 264.314(d).

(4) Placement of CAMU-eligible wastes into or within a CAMU does not constitute land disposal of hazardous wastes.

(5) Consolidation or placement of CAMU-eligible wastes into or within a CAMU does not constitute creation of a unit subject to minimum technology requirements.

(b) (1) The Department may designate a regulated unit (as defined in 264.90(a)(2)) as a CAMU, or may incorporate a regulated unit into a CAMU, if:

(i) The regulated unit is closed or closing, meaning it has begun the closure process under 264.113 or 265.113; and

(ii) Inclusion of the regulated unit will enhance implementation of effective, protective and reliable remedial actions for the facility.

(2) The Subpart F, G, and H requirements and the unit-specific requirements 264 or part 265 that applied to the regulated unit will continue to apply to that portion of the CAMU after incorporation into the CAMU.

(c) The Department shall designate a CAMU that will be used for storage and/or treatment only in accordance with paragraph (f). The Department shall designate all other CAMUs in accordance with the following:

(1) The CAMU shall facilitate the implementation of reliable, effective, protective, and cost-effective remedies;

(2) Waste management activities associated with the CAMU shall not create unacceptable risks to humans or to the environment resulting from exposure to hazardous wastes or hazardous constituents;

(3) The CAMU shall include uncontaminated areas of the facility, only if including such areas for the purpose of managing CAMU-eligible waste is more protective than management of such wastes at contaminated areas of the facility;

(4) Areas within the CAMU, where wastes remain in place after closure of the CAMU, shall be managed and contained so as to minimize future releases, to the extent practicable;

(5) The CAMU shall expedite the timing of remedial activity implementation, when appropriate and practicable;

(6) The CAMU shall enable the use, when appropriate, of treatment technologies (including innovative technologies) to enhance the long-term effectiveness of remedial actions by reducing the toxicity, mobility, or volume of wastes that will remain in place after closure of the CAMU; and

(7) The CAMU shall, to the extent practicable, minimize the land area of the facility upon which wastes will remain in place after closure of the CAMU.

(d) The owner/operator shall provide sufficient information to enable the Department to designate a CAMU in accordance with the criteria in this section. This must include, unless not reasonably available, information on:

(1) The origin of the waste and how it was subsequently managed (including a description of the timing and circumstances surrounding the disposal and/or release);

(2) Whether the waste was listed or identified as hazardous at the time of disposal and/or release; and

(3) Whether the disposal and/or release of the waste occurred before or after the land disposal requirements of part 268 were in effect for the waste listing or characteristic.

(e) The Department shall specify, in the permit, requirements for CAMUs to include the following:

(1) The areal configuration of the CAMU.

(2) Except as provided in paragraph (g), requirements for CAMU-eligible waste management to include the specification of applicable design, operation, treatment and closure requirements.

(3) Minimum design requirements. CAMUs, except as provided in paragraph (f), into which wastes are placed must be designed in accordance with the following:

(i) Unless the Department approves alternate requirements under (e)(3)(ii), CAMUs that consist of new, replacement, or laterally expanded units must include a composite liner and a leachate collection system that is designed and constructed to maintain less than a 30-cm depth of leachate over the liner. For purposes, composite liner means a system consisting of two components; the upper component must consist of a minimum 30-mil flexible membrane liner (FML), and the lower component must consist of at least a two-foot layer of compacted soil with a hydraulic conductivity of no more than $1x10^{-7}$ cm/sec. FML components consisting of high density polyethylene (HDPE) must be at least 60 mil thick. The FML component must be installed in direct and uniform contact with the compacted soil component;

(ii) Alternate requirements. The Department may approve alternate requirements if:

(A) The Department finds that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents into the ground water or surface water at least as effectively as the liner and leachate collection systems in (e)(3)(i); or

(B) The CAMU is to be established in an area with existing significant levels of contamination, and the Department finds that an alternative design, including a design that does not include a liner, would prevent migration from the unit that would exceed long-term remedial goals.

(4) Minimum treatment requirements: Unless the wastes will be placed in a CAMU for storage and/or treatment only in accordance with (f), CAMU-eligible wastes that, absent this section, would be subject to the treatment requirements of part 268, and that the Department determines contain principal hazardous constituents must be treated to the standards specified in (e)(4)(iii)of this section.

(i) Principal hazardous constituents are those constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

(A) In general, the Department will designate as principal hazardous constituents:

(1) Carcinogens that pose a potential direct risk from ingestion or inhalation at the site at or above 10^{-3}; and

(2) Non-carcinogens that pose a potential direct risk from ingestion or inhalation at the site an order of magnitude or greater over their reference dose.

(B) The Department will also designate constituents as principal hazardous constituents, where appropriate, when risks to human health and the environment posed by the potential migration of constituents in wastes to ground water are substantially higher than cleanup levels or goals at the site; when making such a designation, the Department may consider such factors as constituent concentrations, and fate and transport characteristics under site conditions.

(C) The Department may also designate other constituents as principal hazardous constituents that the Department determines pose a risk to human health and the environment substantially higher than the cleanup levels or goals at the site.

(ii) In determining which constituents are "principal hazardous constituents," the Department must consider all constituents which, absent this section, would be subject to the treatment requirements in part 268.

(iii) Waste that the Department determines contains principal hazardous constituents must meet treatment standards determined in accordance with (e)(4)(iv) or (e)(4)(v).

(iv) Treatment standards for wastes placed in CAMUs.

(A) For non-metals, treatment must achieve 90 percent reduction in total principal hazardous constituent concentrations, except as provided by (e)(4)(iv)(C).

(B) For metals, treatment must achieve 90 percent reduction in principal hazardous constituent concentrations as measured in leachate from the treated waste or media (tested according to the TCLP) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by (e)(4)(iv)(C)of this section.

(C) When treatment of any principal hazardous constituent to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the Universal Treatment Standard is not required. Universal Treatment Standards are identified in 268.48 Table UTS.

(D) For waste exhibiting the hazardous characteristic of ignitability, corrosivity or reactivity, the waste must also be treated to eliminate these characteristics.

(E)For debris, the debris must be treated in accordance with 268.45, or by methods or to levels established under s (e)(4)(iv)(A) through (D) or (e)(4)(v), whichever the Department determines is appropriate.

(F) Alternatives to TCLP. For metal bearing wastes for which metals removal treatment is not used, the Department may specify a leaching test other than the TCLP (SW846 Method 1311, 260.11(c)(3)(v) to measure treatment effectiveness, provided the Department determines that an alternative leach testing protocol is appropriate for use, and that the alternative more accurately reflects conditions at the site that affect leaching.

(v) Adjusted standards. The Department may adjust the treatment level or method in (e)(4)(iv) to a higher or lower level, based on one or more of the following factors, as appropriate. The adjusted level or method must be protective of human health and the environment:

(A) The technical impracticability of treatment to the levels or by the methods in (e)(4)(iv);

(B) The levels or methods in (e)(4)(iv) would result in concentrations of principal hazardous constituents (PHCs) that are significantly above or below cleanup standards applicable to the site (established either site-specifically, or promulgated under state or federal law);

(C) The views of the affected local community on the treatment levels or methods in (e)(4)(iv) as applied at the site, and, for treatment levels, the treatment methods necessary to achieve these levels;

(D) The short-term risks presented by the on-site treatment method necessary to achieve the levels or treatment methods in (e)(4)(iv);

(E)The long-term protection offered by the engineering design of the CAMU and related engineering controls:

(1) Where the treatment standards in (e)(4)(iv) are substantially met and the principal hazardous constituents in the waste or residuals are of very low mobility; or

(2) Where cost-effective treatment has been used and the CAMU meets the Subtitle C liner and leachate collection requirements for new land disposal units at 264.301(c) and (d); or

(3) Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, and the CAMU meets the Subtitle C liner and leachate collection requirements for new land disposal units at 264.301(c) and (d); or

(4) Where cost-effective treatment has been used and the principal hazardous constituents in the treated wastes are of very low mobility; or

(5) Where, after review of appropriate treatment technologies, the Department determines that cost-effective treatment is not reasonably available, the principal hazardous constituents in the wastes are of very low mobility, and either the CAMU meets or exceeds the liner standards for new, replacement, or laterally expanded CAMUs in (e)(3)(i)and (ii), or the CAMU provides substantially equivalent or greater protection.

(vi) The treatment required by the treatment standards must be completed prior to, or within a reasonable time after, placement in the CAMU.

(vii) For the purpose of determining whether wastes placed in CAMUs have met site-specific treatment standards, the Department may, as appropriate, specify a subset of the principal hazardous constituents in the waste as analytical surrogates for determining whether treatment standards have been met for other principal hazardous constituents. This specification will be based on the degree of difficulty of treatment and analysis of constituents with similar treatment properties.

(5) Except as provided in (f), requirements for ground water monitoring and corrective action that are sufficient to:

(i) Continue to detect and to characterize the nature, extent, concentration, direction, and movement of existing releases of hazardous constituents in ground water from sources located within the CAMU; and

(ii) Detect and subsequently characterize releases of hazardous constituents to ground water that may occur from areas of the CAMU in which wastes will remain in place after closure of the CAMU; and

(iii) Require notification to the Department and corrective action as necessary to protect human health and the environment for releases to ground water from the CAMU.

(6) Except as provided in (d), closure and post-closure requirements:

(i) Closure of corrective action management units shall:

(A) Minimize the need for further maintenance; and

(B) Control, minimize, or eliminate, to the extent necessary to protect human health and the environment, for areas where wastes remain in place, post-closure escape of hazardous wastes, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground, to surface waters, or to the atmosphere.

(ii) Requirements for closure of CAMUs shall include the following, as appropriate and as deemed necessary by the Department for a given CAMU:

(A) Requirements for excavation, removal, treatment or containment of wastes; and

(B) Requirements for removal and decontamination of equipment, devices, and structures used in CAMU-eligible waste management activities within the CAMU.

(iii) In establishing specific closure requirements for CAMUs under (e), the Department shall consider the following factors:

(A) CAMU characteristics;

(B) Volume of wastes which remain in place after closure;

(C) Potential for releases from the CAMU;

(D) Physical and chemical characteristics of the waste;

(E) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential or actual releases; and

(F) Potential for exposure of humans and environmental receptors if releases were to occur from the CAMU.

(iv) Cap requirements:

(A) At final closure of the CAMU, for areas in which wastes will remain after closure of the CAMU, with constituent concentrations at or above remedial levels or goals applicable to the site, the owner or operator must cover the CAMU with a final cover designed and constructed to meet the following performance criteria, except as provided in (e)(6)(iv)(B):

(1) Provide long-term minimization of migration of liquids through the closed unit;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(B) The Department may determine that modifications to (e)(6)(iv)(A) are needed to facilitate treatment or the performance of the CAMU (e.g., to promote biodegradation).

(v) Post-closure requirements as necessary to protect human health and the environment, to include, for areas where wastes will remain in place, monitoring and maintenance activities, and the frequency with which such activities shall be performed to ensure the integrity of any cap, final cover, or other containment system.

(f) CAMUs used for storage and/or treatment only are CAMUs in which wastes will not remain after closure. Such CAMUs must be designated in accordance with all of the requirements, except as follows.

(1) CAMUs that are used for storage and/or treatment only and that operate in accordance with the time limits established in the staging pile regulations at 264.554(d)(1)(iii), (h), and (i) are subject to the requirements for staging piles at 264.554(d)(1)(i) and (ii), 264.554(d)(2), 264.554(e) and (f), and 264.554(j) and (k) in lieu of the performance standards and requirements for CAMUs in this section at (c) and (e)(3) through (6).

(2) CAMUs that are used for storage and/or treatment only and that do not operate in accordance with the time limits established in the staging pile regulations at 264.554(d)(1)(iii), (h), and (i):

(i) Must operate in accordance with a time limit, established by the Department, that is no longer than necessary to achieve a timely remedy selected for the waste, and

(ii) Are subject to the requirements for staging piles at 264.554(d)(1)(i) and (ii), 264.554(d)(2), 264.554(e) and (f), and 264.554(j) and (k) in lieu of the performance standards and requirements for CAMUs in this section at (c) and (e)(4) and (6).

(g) CAMUs into which wastes are placed where all wastes have constituent levels at or below remedial levels or goals applicable to the site do not have to comply with the requirements for liners at (e)(3)(i), caps at (e)(6)(iv), ground water monitoring requirements at (e)(5) or, for treatment and/or storage-only CAMUs, the design standards at (f).

(h) The Department shall provide public notice and a reasonable opportunity for public comment before designating a CAMU. Such notice shall include the rationale for any proposed adjustments under (e)(4)(v) of this section to the treatment standards in (e)(4)(iv).

(i) Notwithstanding any other provision, the Department may impose additional requirements as necessary to protect human health and the environment.

(j) Incorporation of a CAMU into an existing permit must be approved by the Department according to the procedures for Department-initiated permit modifications under 270.41, or according to the permit modification procedures of 270.42.

(k) The designation of a CAMU does not change the Department's existing authority to address clean-up levels, media-specific points of compliance to be applied to remediation at a facility, or other remedy selection decisions.

264.553 Temporary Units (TU)
(12/93)

(a) For temporary tanks and container storage areas used for treatment or storage of hazardous remediation wastes, during remedial activities required under 264.101 or RCRA section 3008(h), or at a permitted facility that is not subject to 264.101 the owner or operator may request approval by the Department to designate a unit at the facility as a temporary unit. A temporary unit must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the temporary unit originated. For temporary units, the Department may replace the design, operating, or closure standard applicable to these units under this part 264 or part 265 with alternative requirements which protect human health and the environment. (8/00)

(b) Any temporary unit to which alternative requirements are applied in accordance with paragraph (a) of this section shall be:

(1) Located within the facility boundary; and

(2) Used only for treatment or storage of remediation wastes.

(c) In establishing standards to be applied to a temporary unit, the Department shall consider the following factors:

(1) Length of time such unit will be in operation;

(2) Type of unit;

(3) Volumes of wastes to be managed;

(4) Physical and chemical characteristics of the wastes to be managed in the unit;

(5) Potential for releases from the unit;

(6) Hydrogeological and other relevant environmental conditions at the facility which may influence the migration of any potential releases; and

(7) Potential for exposure of humans and environmental receptors if releases were to occur from the unit.

(d) The owner or operator shall specify in the permit application or order the length of time a temporary unit will be allowed to operate, to be no longer than a period of one year. The shall also specify the design, operating, and closure requirements for the unit.

(e) The Department may extend the operational period of a temporary unit once for no longer than a period of one year beyond that originally specified in the permit or order, if the Department determines that:

(1) Continued operation of the unit will not pose a threat to human health and the environment; and

(2) Continued operation of the unit is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(f) Incorporation of a temporary unit or a time extension for a temporary unit into an existing permit shall be:

(1) Approved in accordance with the procedures for Department-initiated permit modifications under 270.41; or

(2) Requested by the owner/operator as a Class II modification according to the procedures under 270.42 of this chapter. (8/00)

(g) The owner or operator shall document the rationale for designating a temporary unit and for granting time extensions for temporary units and the Department shall make such documentation available to the public.

264.554 Staging piles.
This section is written in a special format to make it easier to understand the regulatory requirements. Like other regulations, this establishes enforceable legal requirements. For this "I" and "you" refer to the owner/operator. (8/00)

(a) What is a staging pile? A staging pile is an accumulation of solid, non-flowing remediation waste (as defined in 260.10 of this chapter) that is not a containment building and is used only during remedial operations for temporary storage at a facility. A staging pile must be located within the contiguous property under the control of the owner/operator where the wastes to be managed in the staging pile originated.

Staging piles must be designated by the Department according to the requirements in this section.

(1) For the purposes of this section, storage includes mixing, sizing, blending, or other similar physical operations as long as they are intended to prepare the wastes for subsequent management or treatment. (6/03)

(2) [Reserved 6/03]

(b) When may I use a staging pile? You may use a staging pile to store hazardous remediation waste (or remediation waste otherwise subject to land disposal restrictions) only if you follow the standards and design criteria the Department has designated for that staging pile. The Department must designate the staging pile in a permit or, at an interim status facility, in a closure plan or order (consistent with 270.72(a)(5) and (b)(5) of this chapter). The Department must establish conditions in the permit, closure plan, or order that comply with paragraphs (d) through (k) of this section.

(c) What information must I provide to get a staging pile designated? When seeking a staging pile designation, you must provide:

(1) Sufficient and accurate information to enable the Department to impose standards and design criteria for your staging pile according to paragraphs (d) through (k) of this section;

(2) Certification by qualified professional engineer for technical data, such as design drawings and specifications, and engineering studies, unless the Department determines, based on information that you provide, that this certification is not necessary to ensure that a staging pile will protect human health and the environment; and (6/08)

(3) Any additional information the Department determines is necessary to protect human health and the environment.

(d) What performance criteria must a staging pile satisfy? The Department must establish the standards and design criteria for the staging pile in the permit, closure plan, or order.

(1) The standards and design criteria must comply with the following:

(i) The staging pile must facilitate a reliable, effective and protective remedy;

(ii) The staging pile must be designed so as to prevent or minimize releases of hazardous wastes and hazardous constituents into the environment, and minimize or adequately control cross-media transfer, as necessary to protect human health and the environment (for example, through the use of liners, covers, run-off/run-on controls, as appropriate); and

(iii) The staging pile must not operate for more than two years, except when the Department grants an operating term extension under paragraph (i) of this section (entitled "May I receive an operating extension for a staging pile?"). You must measure the two-year limit, or other operating term specified by the Department in the permit, closure plan, or order, from the first time you place remediation waste into a staging pile. You must maintain a record of the date when you first placed remediation waste into the staging pile for the life of the permit, closure plan, or order, or for three years, whichever is longer.

(2) In setting the standards and design criteria, the Department must consider the following factors:

(i) Length of time the pile will be in operation;

(ii) Volumes of wastes you intend to store in the pile;

(iii) Physical and chemical characteristics of the wastes to be stored in the unit;

(iv) Potential for releases from the unit;

(v) Hydrogeological and other relevant environmental conditions at the facility that may influence the migration of any potential releases; and

(vi) Potential for human and environmental exposure to potential releases from the unit;

(e) May a staging pile receive ignitable or reactive remediation waste? You must not place ignitable or reactive remediation waste in a staging pile unless:

(1) You have treated, rendered or mixed the remediation waste before you placed it in the staging pile so that:

(i) The remediation waste no longer meets the definition of ignitable or reactive under 261.21 or 261.23 of this chapter; and

(ii) You have complied with 264.17(b); or

(2) You manage the remediation waste to protect it from exposure to any material or condition that may cause it to ignite or react.

(f) How do I handle incompatible remediation wastes in a staging pile? The term "incompatible waste" is defined in 260.10 of this chapter. You must comply with the following requirements for incompatible wastes in staging piles:

(1) You must not place incompatible remediation wastes in the same staging pile unless you have complied with 264.17(b);

(2) If remediation waste in a staging pile is incompatible with any waste or material stored nearby in containers, other piles, open tanks or land disposal units (for example, surface impoundments), you must separate the incompatible materials, or protect them from one another by using a dike, berm, wall or other device; and

(3) You must not pile remediation waste on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to comply with 264.17(b).

(g) Are staging piles subject to Land Disposal Restrictions (LDR) and Minimum Technological Requirements (MTR)? No. Placing hazardous remediation wastes into a staging pile does not constitute land disposal of hazardous wastes or create a unit that is subject to the minimum technological requirements of RCRA 3004(o).

(h) How long may I operate a staging pile? The Department may allow a staging pile to operate for up to two years after hazardous remediation waste is first placed into the pile. You must use a staging pile no longer than the length of time designated by the Department in the permit, closure plan, or order (the "operating term"), except as provided in paragraph (i) of this section.

(i) May I receive an operating extension for a staging pile?

(1) The Department may grant one operating term extension of up to 180 days beyond the operating term limit contained in the permit, closure plan, or order (see paragraph (l) of this section for modification procedures). To justify to the Department the need for an extension, you must provide sufficient and accurate information to enable the Department to determine that continued operation of the staging pile:

(i) Will not pose a threat to human health and the environment; and

(ii) Is necessary to ensure timely and efficient implementation of remedial actions at the facility.

(2) The Department may, as a condition of the extension, specify further standards and design criteria in the permit, closure plan, or order, as necessary, to ensure protection of human health and the environment.

(j) What is the closure requirement for a staging pile located in a previously contaminated area?

(1) Within 180 days after the operating term of the staging pile expires, you must close a staging pile located in a previously contaminated area of the site by removing or decontaminating all:

(i) Remediation waste;

(ii) Contaminated containment system components; and

(iii) Structures and equipment contaminated with waste and leachate.

(2) You must also decontaminate contaminated subsoils in a manner and according to a schedule that the Department determines will protect human health and the environment.

(3) The Department must include the above requirements in the permit, closure plan, or order in which the staging pile is designated.

(k) What is the closure requirement for a staging pile located in an uncontaminated area?

(1) Within 180 days after the operating term of the staging pile expires, you must close a staging pile located in an uncontaminated area of the site according to 264.258(a) and 264.111; or according to 265.258(a) and 265.111 of this chapter.

(2) The Department must include the above requirement in the permit, closure plan, or order in which the staging pile is designated.

(l) How may my existing permit (for example, RAP), closure plan, or order be modified to allow me to use a staging pile?

(1) To modify a permit, other than a RAP, to incorporate a staging pile or staging pile operating term extension, either:

(i) The Department must approve the modification under the procedures for Department-initiated permit modifications in 270.41 of this chapter; or

(ii) You must request a Class 2 modification under 270.42 of this chapter.

(2) To modify a RAP to incorporate a staging pile or staging pile operating term extension, you must comply with the RAP modification requirements under 270.170 and

(3) To modify a closure plan to incorporate a staging pile or staging pile operating term extension, you must follow the applicable requirements under 264.112(c) or 265.112(c) of this chapter.

(4) To modify an order to incorporate a staging pile or staging pile operating term extension, you must follow the terms of the order and the applicable provisions of 270.72(a)(5) or (b)(5) of this chapter.

(m) Is information about the staging pile available to the public? The Department must document the rationale for designating a staging pile or staging pile operating term extension and make this documentation available to the public.

264.555 Disposal of CAMU-eligible wastes in permitted hazardous waste landfills.
(6/03)

(a) The Department with regulatory oversight at the location where the cleanup is taking place may approve placement of CAMU-eligible wastes in hazardous waste landfills not located at the site from which the waste originated, without the wastes meeting the requirements of RCRA part 268, if the conditions in (a)(1) through (3) are met:

(1) The waste meets the definition of CAMU-eligible waste in 264.552(a)(1) and (2).

(2) The Department with regulatory oversight at the location where the cleanup is taking place identifies principal hazardous constitutes in such waste, in accordance with 264.552(e)(4)(i) and (ii), and requires that such principal hazardous constituents are treated to any of the following standards specified for CAMU-eligible wastes:

(i) The treatment standards under 264.552(e)(4)(iv); or

(ii) Treatment standards adjusted in accordance with 264.552(e)(4)(v)(A), (C), (D) or (E)(1); or

(iii) Treatment standards adjusted in accordance with 264.552(e)(4)(v)(E)(2), where treatment has been used and that treatment significantly reduces the toxicity or mobility of the principal hazardous constituents in the waste, minimizing the short-term and long-term threat posed by the waste, including the threat at the remediation site.

(3) The landfill receiving the CAMU-eligible waste must have a RCRA hazardous waste permit, meet the requirements for new landfills in Subpart N, and be authorized to accept CAMU-eligible wastes; for the purposes of this requirement, "permit" does not include interim status.

(b) The person seeking approval shall provide sufficient information to enable the Department with regulatory oversight at the location where the cleanup is taking place to approve placement of CAMU-eligible waste in accordance with (a). Information required by 264.552(d)(1) through (3) for CAMU applications must be provided, unless not reasonably available.

(c) The Department with regulatory oversight at the location where the cleanup is taking place shall provide public notice and a reasonable opportunity for public comment before approving CAMU eligible waste for placement in an off-site permitted hazardous waste landfill, consistent with the requirements for CAMU approval at 264.552(h). The approval must be specific to a single remediation.

(d) Applicable hazardous waste management requirements in this part, including recordkeeping requirements to demonstrate compliance with treatment standards approved under this section, for CAMU-eligible waste must be incorporated into the receiving facility permit through permit issuance or a permit modification, providing notice and an opportunity for comment and a hearing. Notwithstanding 270.4(a), a landfill may not receive hazardous CAMU-eligible waste under this section unless its permit specifically authorizes receipt of such waste.

(e) For each remediation, CAMU-eligible waste may not be placed in an off-site landfill authorized to receive CAMU-eligible waste in accordance with (d) until the following additional conditions have been met:

(1) The landfill owner/operator notifies the Department responsible for oversight of the landfill and persons on the facility mailing list, maintained in accordance with 124.10(c)(1)(ix), of his or her intent to receive CAMU-eligible waste in accordance with this section; the notice must identify the source of the remediation waste, the principal hazardous constituents in the waste, and treatment requirements.

(2) Persons on the facility mailing list may provide comments, including objections to the receipt of the CAMU-eligible waste, to the Department within 15 days of notification.

(3) The Department may object to the placement of the CAMU-eligible waste in the landfill within 30 days of notification; the Department may extend the review period an additional 30 days because of public concerns or insufficient information.

(4) CAMU-eligible wastes may not be placed in the landfill until the Department has notified the facility owner/operator that he or she does not object to its placement.

(5) If the Department objects to the placement or does not notify the facility owner/operator that he or she has chosen not to object, the facility may not receive the waste, notwithstanding 270.4(a), until the objection has been resolved, or the owner/operator obtains a permit modification in accordance with the procedures of 270.42 specifically authorizing receipt of the waste.

(6) As part of the permit issuance or permit modification process of (d), the Department may modify, reduce, or eliminate the notification requirements of this as they apply to specific categories of CAMU-eligible waste, based on minimal risk.

(f) Generators of CAMU-eligible wastes sent off-site to a hazardous waste landfill under this section must comply with the requirements of 268.7(a)(4); off-site facilities treating CAMU-eligible wastes to comply with this section must comply with the requirements of 268.7(b)(4), except that the certification must be with respect to the treatment requirements of (a)(2)of this section.

(g) For the purposes of this section only, the "design of the CAMU" in 264.552(e)(4)(v)(E) means design of the permitted Subtitle C landfill.

Subpart T - V [Reserved]

Subpart W - Drip Pads

264.570 Applicability

(a) The requirements of this subpart apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water runoff to an associated collection system. Existing drip pads are those constructed before December 6, 1990 and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at 264.573(b)(3) to install a leak collection system applies only to those drip pads that are constructed after December 24, 1992 except for those constructed after December 24, 1992 for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992. (12/93)

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither runoff nor runon is generated is not subject to regulation under 264.573(e) or 264.573(f), as appropriate.

(c) The requirements of this subpart are not applicable to the management of infrequent and incidental drippage in storage yards provided that: (12/93)

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental

drippage. At a minimum, the contingency plan must describe how the owner or operator will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain the documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with State and Federal regulations.

264.571 Assessment of existing drip pad integrity

(a) For each existing drip pad as defined in 264.570, the owner or operator must evaluate the drip pad and determine whether it meets all of the requirements of this subpart, except the requirements for liners and leak detection systems of 264.573(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by a qualified Professional Engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all the standards of 264.573 are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of 264.573, except the standards for liners and leak detection systems, specified in 264.573(b). (12/93, 6/08)

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of 264.573(b) and submit the plan to the Department no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of 264.573. The plan must be reviewed and certified by a qualified Professional Engineer. (12/93; 12/94, 9/98, 6/08)

(c) Upon completion of all upgrades, repairs, and modifications, the owner or operator must submit to the Department the as-built drawings for the drip pad together with a certification by a qualified Professional Engineer attesting that the drip pad conforms to the drawings. (6/08)

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of 264.573 (m) of this subpart or close the drip pad in accordance with 264.575.

264.572 Design and installation of new drip pads

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following: (12/93)

(a) all of the requirements of 264.573 (except 264.573(a)(4)), 264.574 and 264.575 of this subpart, or (12/93)

(b) all of the requirements of 264.573 (except 264.573(b)), 264.574 and 264.575 of this subpart. (12/93)

264.573 Design and operating requirements

(a) Drip pads must:

(1) Be constructed of non-earthen materials, excluding wood and non-structurally supported asphalt;

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4) (i) Have a hydraulic conductivity of less than or equal to $1x10^{-7}$ centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to $1x10^{-7}$ centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with 264.572(b) instead of 264.572(a). (12/93, 12/94, 9/98)

(ii) The owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by an qualified Professional Engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this section, except for paragraph (b) of this Section. (12/93, 6/08)

(5) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of daily operations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc.

Note: The Department will generally consider applicable standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) or the American Society of Testing and Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If an owner/operator elects to comply with 264.572(a) instead of 264.572(b), the drip pad must have: (12/93; 12/94, 9/01)

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during

the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and to prevent releases into the adjacent subsurface soil or groundwater or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad;

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad; and

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log. (12/93)

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.

Note: See 264.573(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent runoff.

(e) Unless protected by a structure, as described in 264.570(b), the owner or operator must design, construct, operate and maintain a runon control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm, unless the system has sufficient excess capacity to contain any runoff that might enter the system.

(f) Unless protected by a structure or cover as described in 264.570(b), the owner or operator must design, construct, operate and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from qualified Professional Engineer certifying that the drip pad design meets the requirements of this section. (6/08)

(h) Drippage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. The owner/operator must determine if the residues are hazardous as per R.69-79.262.11 and, if so, must manage them under parts 261-268, 270, and section 3010 of RCRA. (12/93)

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and nonpressure processes must be held on the drip pad until drippage has ceased. The owner or operator must maintain records sufficient to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with runon and runoff control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad and as specified in the permit, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time

following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage in the leak detection system), the owner or operator must:

(i) Enter a record of the discovery in the facility operating log;

(ii) Immediately remove the portion of the drip pad affected by the condition from service;

(iii) Determine what steps must be taken to repair the drip pad and clean up any leakage from below the drip pad, and establish a schedule for accomplishing the repairs;

(iv) Within 24 hours after discovery of the condition, notify the Department of the condition and, within 10 working days, provide written notice to the Department with a description of the steps that will be taken to repair the drip pad and clean up any leakage, and the schedule for accomplishing this work.

(2) The Department will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and cleanup are complete and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and cleanup, the owner or operator must notify the Department in writing and provide a certification signed by an independent, qualified registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) Should a permit under these regulations be necessary, the Department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(o) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

264.574 Inspections

(a) During construction or installation, liners and cover systems (*e.g.*, membranes, sheets, or coatings) must be inspected for uniformity, damage and imperfections (*e.g.*, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements in 264.573 by a qualified Professional Engineer. This certification must be maintained at the facility as part of the facility operating record. After installation, liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters. (6/08)

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions or improper operation of runon and runoff control systems;

(2) The presence of leakage in and proper functioning of leak detection system.

(3) Deterioration or cracking of the drip pad surface.

Note: See 264.573(m) for remedial action required if deterioration or leakage is detected.

264.575 Closure

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform postclosure care in accordance with closure and postclosure care requirements that apply to landfills (264.310). For permitted units, the requirement to have a permit continues throughout the postclosure period. In addition, for the purpose of closure, postclosure, and financial responsibility, such a drip pad is then considered to be landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

(c) (1) The owner or operator of an existing drip pad, as defined in 264.570 of this subpart, that does not comply with the liner requirements of 264.573(b)(1) must:

(i) Include in the closure plan for the drip pad under 264.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent postclosure plan under 264.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 264.112 and 264.144 of this part for closure and postclosure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent postclosure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subpart X - Miscellaneous Units

264.600 Applicability
The requirements in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as 264.1 provide otherwise. (11/90)

264.601 Environmental performance standards
A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Applications for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions must include those requirements of subparts I through O and subparts AA through CC of this Part, Part 270, and 40 CFR part 63 subpart EEE, and 40 CFR part 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to: (9/01)

(a) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering: (12/93)

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;

(2) The hydrologic and geologic characteristics of the unit and the surrounding area;

(3) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater;

(4) The quantity and direction of groundwater flow;

(5) The proximity to and withdrawal rates of current and potential groundwater users;

(6) The patterns of land use in the region;

(7) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food chain crops and other vegetation;

(8) The potential for health risks caused by human exposure to waste constituents; and

(9) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(b) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

(1) The volume and physical and chemical characteristics of the waste in the unit;

(2) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;

(3) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;

(4) The patterns of precipitation in the region;

(5) The quantity, quality, and direction of groundwater flow;

(6) The proximity of the unit to surface waters;

(7) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;

(8) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;

(9) The patterns of land use in the region;

(10) The potential for health risks caused by human exposure to waste constituents; and

(11) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

(c) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates;

(2) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;

(3) The operating characteristics of the unit;

(4) The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;

(5) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(6) The potential for health risks caused by human exposure to waste constituents; and

(7) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

264.602 Monitoring, analysis, inspection, response, reporting, and corrective action
Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with 264.601, 264.15, 264.33, 264.75, 264.76, 264.77, and 264.101 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit under these regulations. (12/92)

264.603 Postclosure care

A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with 264.601 during the postclosure care period. In addition, if a treatment or storage unit has contaminated soils or groundwater that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of 264.601 during postclosure care. The postclosure plan under 264.118 must specify the procedures that will be used to satisfy this requirement.

Subparts Y-Z [Reserved]

Subpart AA - Air Emission Standards for Process Vents

(12/92)

264.1030 Applicability

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in 264.1).

(b) Except for 264.1034, paragraphs (d) and (e), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following:

(1) A unit that is subject to the permitting requirements of 270, or (9/98)

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of 270, or (9/98)

(3) A unit that is exempt from permitting under the provisions of 262.34(a) (i.e., a 90-day tank or container) and is not a recycling unit under the provisions of 261.6. (9/98, 11//99)

(c) For the owner and operator of a facility subject to this subpart and who received a final permit under 44-56-60 and RCRA section 3005 prior to December 6, 1996, the requirements of this subpart shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 124.15 or reviewed in accordance with the requirements of 270.50(d). Until such date when the owner and operator receive a final permit incorporating the requirements of this subpart, the owner and operator are subject to the requirements of 265 Subpart AA. (9/98, 11/99)

[Note: The requirements of 264.1032 through 264.1036 apply to process vents on hazardous waste recycling units previously exempt under 261.6(c)(1). Other exemptions under 261.4, and 264.1(g) are not affected by these requirements.] (8/00)

(d) Reserved (11/99)

(e) The requirements of this subpart do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subpart are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with, or made readily available with, the facility operating record. (11/99)

264.1031 Definitions

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and parts 260 - 266.

Air stripping operation is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubblecap, sieve, or valvetype plate towers are among the process configurations used for contacting the air and a liquid.

Bottoms receiver means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

Closed-vent system means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

Condenser means a heat transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

Connector means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

Continuous recorder means a data recording device recording an instantaneous data value at least once every 15 minutes.

Control device means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

Control device shutdown means the cessation of operation of a control device for any purpose.

Distillate receiver means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

Distillation operation means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange or other connector, and any control devices or systems required by this subpart. (8/00)

Flame zone means the portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator means a device that indicates whether gas flow is present in a vent stream.

First attempt at repair means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fractionation operation means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

Hazardous waste management unit shutdown means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

Hot well means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

In gas/vapor service means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the organic components in the stream is greater than 0.3 kiloPascals (kPa) at 20 EC, the total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 EC is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions. (12/93, 11/99)

In situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure. (12/93)

Malfunction means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with hazardous waste and one side open to

the atmosphere, either directly or through open piping. (8/00)

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

Process heater means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

Repaired means that equipment is adjusted, or otherwise altered, to eliminate a leak.

Sampling connection system means an assembly of equipment within a process or waste management unit used during periods of representative operation to take samples of the process or waste fluid. Equipment used to take non-routine grab samples is not considered a sampling connection system. (8/00)

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Separator tank means a device used for separation of two immiscible liquids.

Solvent extraction operation means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

Startup means the setting in operation of a hazardous waste management unit or control device for any purpose.

Steam stripping operation means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

Surge control tank means a large sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

Thin-film evaporation operation means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

Vapor incinerator means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

Vented means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

264.1032 Standards: Process vents

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section the closed-vent system and control device must meet the requirements of 264.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of 264.1034(c).

(d) When an owner or operator and the Department do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in 264.1034(c) shall be used to resolve the disagreement.

264.1033 Standards: Closed-vent systems and control devices

(a) (1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) (i) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective

date that the facility becomes subject to this subpart for installation and startup. (9/01)

(ii) Any unit that begins operation after December 21, 1990, and is subject to the provisions of this subpart when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply. (11/99)

(iii) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subpart shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subpart can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subpart. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility. (11/99)

(iv) Owners and operators of facilities and units that become newly subject to the requirements of this subpart after December 8, 1997, due to an action other than those described in paragraph (a)(2)(iii) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply). (11/99)

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of 264.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 EC. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(d) (1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4) (i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e) (1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^{n} C_i H_i \right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on

combustion at 25 EC and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 EC;

K = Constant, $1.74X10^{-7}$ (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 EC;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in 260.11); and

H_i = Net heat of combustion of sample component i, kcal/9 mol at 25 EC and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$Log_{10}(V_{max})=(H_T+28.8)/31.7$$

where:

28.8 = Constant,

31.7 = Constant,

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max}=8.706+0.7084\ (H_T)$$

where:

8.706 = Constant,

0.7084 = Constant,

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser, or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ∀1 percent of the temperature being monitored in degrees Celsius (EC) or ∀0.5 EC, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side). (9/98)

(vii) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed bed carbon adsorber, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f)(1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of 264.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of 264.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of 264.1035(b)(4)(iii)(G).

(i) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(j) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(k) A closed-vent system shall meet either of the following design requirements: (9/98)

(1) A closed-vent systems shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in 264.1034(b) of this subpart, and by visual inspections; or

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating.

(l) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements: (9/98)

(1) Each closed-vent system that is used to comply with paragraph (k)(1) of this section shall be inspected and monitored in accordance with the following requirements:

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in 264.1034(b) of this subpart to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background.

(ii) After initial leak detection monitoring required in paragraph (l)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows:

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in 264.1034(b) of this subpart to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted).

(B) Closed-vent system components or connections other than those specified in paragraph (l)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Department, except as provided for in paragraph (o) of this section, using the procedures specified in 264.1034(b) of this subpart to demonstrate that the components or connections operate with no detectable emissions.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or

leak in accordance with the requirements of paragraph (l)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in 264.1035 of this subpart.

(2) Each closed-vent system that is used to comply with paragraph (k)(2) of this section shall be inspected and monitored in accordance with the following requirements:

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections.

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year.

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (l)(3) of this section.

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in 264.1035 of this subpart.

(3) The owner or operator shall repair all detected defects as follows:

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (l)(3)(iii) of this section.

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown.

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in 264.1035 of this subpart.

(m) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them. (9/98)

(n) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon: (9/98)

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following:

(i) The owner or operator of the unit has been issued a final permit under part 270 which implements the requirements of subpart X of this part; or

(ii) The unit is equipped wit and operating air emission controls in accordance with the applicable requirements of subparts AA and CC of either this part or of part 265; or

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63.

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either:

(i) Has been issued a final permit under part 270 which implements the requirements of subpart O of this part; or

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of part 265, subpart O.

(3) Burned in a boiler or industrial furnace for which the owner or operator either:

(i) Has been issued a final permit under part 270 which implements the requirements of part 266, subpart H; or

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of part 266, subpart H.

(o) Any components of a closed-vent system that are designated, as described in 264.1035(c)(9) of this subpart, as unsafe to monitor are exempt from the requirements of paragraph (l)(1)(ii)(B) of this section if: (9/98)

(1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (l)(1)(ii)(B) of this section; and

(2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (l)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times.

264.1034 Test methods and procedures

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in 264.1033(l) of this subpart, the test shall comply with the following requirements: (11/99)

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with 264.1032(a) and with the total organic compound concentration limit of 264.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 for organic content.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a timeweighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^{n} C_i M W_i \right\} [0.0416] [10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h;

Q_{sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n = Number of organic compounds in the vent gas;

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = Conversion factor for molar volume, kgmol/m^3 (@ 293 K and 760 mm Hg);

10^{-6} = Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h)(H)$$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the timeweighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Department's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping

operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the timeweighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8260 of SW-846 (incorporated by reference under 260.11). (9/98)

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the timeweighted, annual average total organic concentration of the waste. The timeweighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with timeweighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later, and

(2) For continuously generated waste, annually, or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Department do not agree on whether a distillation, fractionation, thin film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of SW-846 (incorporated by reference under 260.11) may be used to resolve the dispute. (9/98, 11/99)

264.1035 Recordkeeping requirements

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of 264.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in 264.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using

operating parameter values (e.g., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with 264.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by 264.1033(k).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of APTI Course 415: Control of Gaseous Emissions (incorporated by reference as specified in 260.11) or other engineering texts acceptable to the Department that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in 264.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon

replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of 264.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with 264.1033 (f)(1) and (f)(2).

(3) Monitoring, operating, and inspection information required by paragraphs (f) through (k) of 264.1033.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760EC, period when the combustion temperature is below 760EC. (6/04)

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater, period when the combustion zone temperature is more than 28°C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section. (6/04)

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28EC below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section, or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28EC below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section, or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with 264.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with 264.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6EC above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6EC above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with 264.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with 264.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time

established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (4) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For a carbon adsorption system operated subject to requirements specified in 264.1033(g) or 264.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For a carbon adsorption system operated subject to requirements specified in 264.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to 264.1033(o) of this subpart shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of 264.1033(o) of this subpart, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component. (9/98)

(10) When each leak is detected as specified in 264.1033(l) of this subpart, the following information shall be recorded: (9/98)

(i) The instrument identification number, the closed-vent system component identification number, and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, Appendix A after it is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record. (9/98)

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Department will specify the appropriate recordkeeping requirements.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in 264.1032 including supporting documentation as required by 264.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

264.1036 Reporting requirements

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Department by dates specified by the Department. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility. (12/93)

(2) For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in 264.1035(c)(4) and as indicated by the control device monitoring required by 264.1033(f) and such exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in 264.1033(d) and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

(b) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in 264.1035(c)(4) for more than 24 hours or a flare does not operate with visible emissions as defined in 264.1033(d), a report to the Department is not required.

264.1037 - 264.1049 [Reserved]

Subpart BB - Air Emission Standards for Equipment Leaks

264.1050 Applicability

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in 264.1).

(b) Except as provided in 264.1064(k), this subpart applies to equipment that contains or contacts hazardous

wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following: (9/98)

(1) A unit that is subject to the permitting requirements of part 270, or

(2) A unit (including a hazardous waste recycling unit that is not exempt from permitting under the provisions of 262.34(a) (i.e., a hazardous waste recycling unit that is not a A90-day@ tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of part 270, or

(3) A unit that is exempt from permitting under the provisions of 262.34(a) (i.e., a "90-day" tank or container) and is not a recycling unit under the provisions of 261.6. (11/99)

(c) For the owner or operator of a facility subject to this subpart and who received a final permit under RCRA section 3005 prior to December 6, 1996, the requirements of this subpart shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 124.15 or reviewed in accordance with the requirements of 270.50(d). Until such date when the owner or operator receives a final permit incorporating the requirements of this subpart, the owner or operator is subject to the requirements of part 265, subpart BB. (11/99)

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of 264.1052 to 264.1060 if it is identified as required in 264.1064(g)(5).

(f) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of 264.1052 through 264.1060 of this subpart if it is identified as required in 264.1064(g)(6) of this subpart. (9/98, 11/99)

(g) [Reserved] (9/98; 8/00)

(h) Purged coatings and solvents from surface coating operations subject to the national emission standards for hazardous air pollutants (NESHAP) for the surface coating of automobiles and light-duty trucks at 40 CFR part 63, subpart IIII, are not subject to the requirements of this subpart. (6/06)

[Note: The requirements of 264.1052 through 264.1065 apply to equipment associated with hazardous waste recycling units previously exempt under 261.6(c)(1). Other exemptions under 261.4, and 264.1(g) are not affected by these requirements.] (9/98, 6/06)

264.1051 Definitions

As used in this subpart, all terms shall have the meaning given them in 264.1031, the Act, and parts 260 - 266.

264.1052 Standards: Pumps in light liquid service

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 264.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a) of this section, provided the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of 264.1060, or

(iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system, or both.

(4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5) (i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6) (i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15

calendar days after it is detected, except as provided in 264.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 264.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Department.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of 264.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

264.1053 Standards: Compressors

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of 264.1060, or (12/93)

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of 264.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in 264.1064(g)(2), for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 264.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Department.

264.1054 Standards: Pressure relief devices in gas/vapor service

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 264.1063(c).

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 264.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 264.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a

control device as described in 264.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

264.1055 Standards: Sampling connecting systems

(a) Each sampling connection system shall be equipped with a closed purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured. (9/98)

(b) Each closed purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall meet one of the following requirements: (9/98)

(1) Return the purged process fluid directly to the process line;

(2) Collect and recycle the purged process fluid; or

(3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 264.1084 through 264.1086 of this subpart or a control device that complies with the requirements of 264.1060 of this subpart.

(c) In situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section. (9/98)

264.1056 Standards: Open-ended valves or lines

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

264.1057 Standards: Valves in gas/vapor service or in light liquid service

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in 264.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section, and 264.1061 and 264.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for two successive months,

(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 264.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the hazardous waste stream.

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 264.1063(c).

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Department.

(g) Any valve that is designated, as described in 264.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in 264.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

264.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in 264.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 264.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under 264.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the recordkeeping requirements of 264.1064 of this subpart. (9/98)

264.1059 Standards: Delay of repair

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 264.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

264.1060 Standards: Closedvent systems and control devices

(a) Owners and operators of closed-vent systems and control devices subject to this subpart shall comply with the provisions of 264.1033 of this part. (11/99)

(b) (1) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subpart for installation and startup. (11/99)

(2) Any unit that begins operation after December 21, 1990, and is subject to the provisions of this subpart when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply. (11/99)

(3) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subpart shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subpart can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award or contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subpart. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility. (11/99)

(4) Owners and operators of facilities and units that become newly subject to the requirements of this

subpart after December 8, 1997, due to an action other than those described in paragraph (b)(3) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply). (11/99)

264.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak

(a) An owner or operator subject to the requirements of 264.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Department.

(2) If a valve leak is detected, it shall be repaired in accordance with 264.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in 264.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in 264.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in 264.1057 for which leaks are detected by the total number of valves subject to the requirements in 264.1057 within the hazardous waste management unit. (6/08)

264.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair

(a) An owner or operator subject to the requirements of 264.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.(6/08)

(b) (1) An owner or operator shall comply with the requirements for valves, as described in 264.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in 264.1057 of this subpart (11/99).

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in 264.1057 of this subpart. (11/99)

(4) If the percentage of valves leaking is greater than 2 percent, the owner or operator shall monitor monthly in compliance with the requirements in 264.1057, but may again elect to use this section after meeting the requirements of 264.1057(c)(1).

264.1063 Test methods and procedures

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in 264.1052 - 264.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions. as required in 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b)(1) through (4) of this section shall apply.

(2) The background level shall be determined as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by 264.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether

the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under 260.11);

(2) Method 9060 or 8260 of SW-846 (incorporated by reference under 260.11); or (9/98)

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of 264.1034(c)(1) through (c)(4).

264.1064 Recordkeeping requirements

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 264 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g.. a pump or pipeline valve).

(iv) Percent by weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., monthly leak detection and repair or equipped with dual mechanical seals).

(2) For facilities that comply with the provisions of 264.1033(a)(2), an implementation schedule as specified in 264.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in 264.1035(b)(3).

(4) Documentation of compliance with 264.1060, including the detailed design documentation or performance test results specified in 264.1035(b)(4).

(c) When each leak is detected as specified in 264.1052, 264.1053, 264.1057, and 264.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 264.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in 264.1052, 264.1053, 264.1057, and 264.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with 264.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) Above 10,000 if the maximum instrument reading measured by the methods specified in 264.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with 264.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of 264.1060 shall be recorded and kept up to date in the facility operating record as specified in 264.1035(c). Design documentation is specified in 264.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in 264.1035(c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Department will specify the appropriate recordkeeping requirements.

(g) The following information pertaining to all equipment subject to the requirements in 264.1052 through 264.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2) (i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of 264.1052(e), 264.1053(i), and 264.1057(f).

(ii) The designation of this equipment as subject to the requirements of 264.1052(e), 264.1053(i), or 264.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with 264.1054(a).

(4) (i) The dates of each compliance test required in 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year. (9/98, 11/99)

(h) The following information pertaining to all valves subject to the requirements of 264.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with 264.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in 264.1052(d)(5)(ii) and 264.1053(e)(2) and an explanation of the design criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in 264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in 264.1052 through 264.1060. The record shall include supporting documentation as required by 264.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in 264.1052 through 264.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The owner or operator of a facility with equipment that is subject to this subpart and to

regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subpart either by documentation pursuant to 264.1064 of this subpart, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record. (11/99)

264.1065 Reporting requirements

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Department by dates specified by the Department. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility. (12/93)

(2) For each month during the semiannual reporting period:

(i) The equipment identification number of each valve for which a leak was not repaired as required in 264.1057(d).

(ii) The equipment identification number of each pump for which a leak was not repaired as required in 264.1052 (c) and (d)(6).

(iii) The equipment identification number of each compressor for which a leak was not repaired as required in 264.1053(g).

(3) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

(4) For each month during the semiannual reporting period, dates when the control device installed as required by 264.1052, 264.1053, 264.1054, or 264.1055 exceeded or operated outside of the design specifications as defined in 264.1064(e) and as indicated by the control device monitoring required by 264.1060 and was not corrected within 24 hours, the duration and cause of each exceedance, and any corrective measures taken.

(b) If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in 264.1057 (d), 264.1052 (c) and (d)(6), and 264.1053 (g), respectively, and the control device does not exceed or operate outside of the design specifications as defined in 264.1064(e) for more than 24 hours, a report to the Department is not required.

264.1066 - 264.1079 [Reserved]

Subpart CC - Air Emission Standards for Tanks, Surface Impoundments, and Containers

264.1080 Applicability

(a) The requirements of this subpart apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subpart I, J, or K of this part except as 264.1 and paragraph (b) of this section provide otherwise. (9/98)

(b) The requirements of this subpart do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996. (11/99)

(2) A container that has a design capacity less than or equal to 0.1 m^3.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v), or 3008(h); CERCLA authorities; or similar Federal or State authorities. (8/00)

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of 264.1084(i), except as provided in 264.1082(c)(5).

(8) A tank that has a process vent as defined in 264.1031.

(c) For the owner and operator of a facility subject to this subpart and who received a final permit under RCRA section 3005 prior to December 6, 1996, the requirements of this subpart shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 124.15 of this chapter or reviewed in accordance with the requirements of 270.50(d) of this chapter. Until such date when the permit is reissued in accordance with the requirements of 124.15 or reviewed in accordance with the

requirements of 270.50(d), the owner and operator are subject to the requirements of part 265, subpart CC. (11/99)

(d) The requirements of this subpart, except for the recordkeeping requirements specified in 264.1089(i) of this subpart, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products manufactured by the process. For the purpose of meeting the conditions of this paragraph, "organic peroxide" means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of 264.1089(i) of this subpart, explaining why an undue safety hazard would be created if air emission controls specified in 264.1084 through 264.1087 of this subpart are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Department in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

(e) [Reserved 11/99]

264.1081 Definitions

As used in this subpart, all terms shall have the meaning given to them in 265.1081, the Act, and parts 260 through 266 of this chapter.

264.1082 Standards: General

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subpart.

(b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in 264.1084 through 264.1087 of this subpart, as applicable to the hazardous waste management unit, except as provided for in paragraph (c) of this section. (11/99)

(c) A tank, surface impoundment, or container is exempt from standards specified in 264.1084 through 264.1087 of this subpart, as applicable, provided that the waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in 264.1083(a) of this subpart. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in 264.1083(b) of this subpart.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in 264.1083(b) of this subpart.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in 264.1083(b) of this subpart.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in 264.1083(b) of this subpart.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in 264.1083(b) of this subpart.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in 264.1084 through 264.1087 of this subpart, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in 264.1083(a) of this subpart. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in 264.1083(b) of this subpart.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in 264.1083(b) and 264.1083(a) of this subpart, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under part 270 which implements the requirements of subpart O of this part; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of part 265, subpart O.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under part 270 which implements the requirements of part 266, subpart H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of part 266, subpart H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40CFR Part 60, Appendix A, or a value of 25 ppmw, whichever is less. (11/99)

(B) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25 degrees Celsius. (11/99)

(3) A tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section. (11/99)

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in part 268-Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste" in 268.40; or

(ii) The organic hazardous constituents in the waste have been treated by the treatment technology established by EPA for the waste in 268.42(a), or have been removed or destroyed by an equivalent method of treatment approved by EPA pursuant to 268.42(b).

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF-National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to November 25, 1996 and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" annually.

(d) The Department may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of 264.1083(a) of this subpart. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of 264.1083(b) of this subpart.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Department determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Department may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Department may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Department do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subpart.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Department may elect to establish compliance with this subpart by performing or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of 264.1083(a) of this subpart.

(ii) Results of the waste determination performed or requested by the Department showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subpart except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of 264.1083(a) and 264.1089 of this subpart shall be considered by the Department together with the results of the waste determination performed or requested by the Department in establishing compliance with this subpart.

264.1083 Waste determination procedures

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of

264.1082(c)(1) of this subpart from using air emission controls in accordance with standards specified in 264.1084 through 264.1087 of this subpart, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of 264.1082(c)(1) of this subpart from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and (8/00)

(ii) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the applicable VO concentration limits specified in 264.1082 of this subpart. (8/00)

(2) For a waste determination that is required by paragraph (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined in accordance with the procedures specified in) 265.1084(a)(2) through (a)(4). (11/99)

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determinations for each treated hazardous waste placed in waste management units exempted under the provisions of 264.1082(c)(2)(i) through (c)(2)(vi) of this subpart from using air emission controls in accordance with standards specified in 264.1084 through 264.1087 of this subpart, as applicable to the waste management unit. (11/99)

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in the exempt waste management unit, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and (8/00)

(ii) Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in 264.1082(c)(2) of this subpart are not achieved. (8/00)

(2) The waste determination for a treated hazardous waste shall be performed in accordance with the procedures specified in 265.1084 (b)(2) through (b)(9), as applicable to the treated hazardous waste.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with standards specified in 264.1084(c) of this subpart.

(2) The maximum organic vapor pressure of the hazardous waste may be determined in accordance with the procedures specified in 265.1084 (c)(2) through (c)(4).

(d) The procedure for determining no detectable organic emissions for the purpose of complying with this subpart shall be conducted in accordance with the procedures specified in 265.1084(d).

264.1084 Standards: Tanks

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which 264.1082(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m^3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m^3 but less than 151 m^3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m^3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in 265.1081.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant

emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in 264.1083(c) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either: (11/99)

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as provided for in paragraphs (c)(2)(iii)(B) (1) and (2) of this section. (11/99)

(1) During periods when it is necessary to provide access to the tank for performing the activities of paragraph (c)(2)(iii)(B)(2) of this section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device.

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for removal of accumulated sludge or other residues from the bottom of the tank.

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the

owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(b) of this subpart.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in 265.1081; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Department in advance of each inspection to provide the Department with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Department of the date and location of the inspection as follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Department at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Department as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Department at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(b) of this subpart.

(4) Safety devices, as defined in 265.1081, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e)of this section. (11/99)

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in 265.1081. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm^2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section. (11/99)

(E) In the event that the seal gap measurements do not conform to the specifications in

paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(b) of this subpart.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(b) of this subpart.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this subpart, the owner or operator shall notify the Department in advance of each inspection to provide the Department with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Department of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Department at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Department at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Department as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Department at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in 265.1081, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e)of this section. (11/99)

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 264.1087 of this subpart.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 264.1087 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(b) of this subpart.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in 264.1083(d) of this subpart.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section. (8/00)

(i) At those times when opening of a safety device, as defined in 265.1081 of this subpart, is required to avoid an unsafe condition. (8/00)

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of 264.1087 of this subpart. (8/00)

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in 264.1087 of this subpart.

(3) Safety devices, as defined in 265.1081, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in 264.1087 of this subpart.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to 264.1085 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) of this section do not apply when transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in 264.1082(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in 264.1082(c)(2) of this subpart.

(iii) The hazardous waste meets the requirements of 264.1082(c)(4) of this subpart. (11/99)

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this subpart, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

264.1085 Standards: Surface impoundments

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which 264.1082(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the provisions specified in paragraph (d) of this section. (11/99)

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(c) of this subpart.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in 264.1083(d) of this subpart.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the

materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed. (11/99)

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 264.1087 of this subpart.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of the surface impoundment. (11/99)

(ii) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 264.1087 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 264.1089(c) of this subpart.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to 264.1084 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in 264.1082(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in 264.1082(c)(2) of this subpart.

(iii) The hazardous waste meets the requirements of 264.1082(c)(4) of this subpart. (11/99)

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the surface impoundment stops operation. Repair of the defect shall

be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subpart as frequently as practicable during those times when a worker can safely access the cover.

264.1086 Standards: Containers

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which 264.1082(b) of this subpart references the use of this section for such air emission control.

(b) General requirements.

(1) The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m^3 and less than or equal to 0.46 m^3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m^3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m^3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m^3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as the container is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used. (11/99)

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the

container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subpart CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest in the Appendix to part 262 (Forms 8700-22 and 8700-22A), as required under subpart E of this part, at 264.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section. (11/99)

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container

and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m^3 or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in 265.1081 and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, Appendix A, Method 27 in accordance with the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: a submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on

container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 265.1081, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in 261.7(b)), the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subpart CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest in the Appendix to part 262 (EPA Forms 8700-22 and 8700-22A), as required under subpart E of this part, at 264.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section. (8/00)

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T - Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 264.1087 of this subpart.

(3) Safety devices, as defined in 265.1081, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subpart shall inspect and monitor the closed-vent systems and control devices as specified in 264.1087 of this subpart.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subpart shall prepare and maintain the records specified in 264.1089(d) of this subpart.

(6) Transfer of hazardous waste in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the

hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the Department considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening. (8/00)

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178-Specifications for Packaging or 49 CFR part 179-Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B-Exemptions; 49 CFR part 172-Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173-Shippers-General Requirements for Shipments and Packages; and 49 CFR Part 180 Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subpart, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subpart, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirement of paragraph (d)(1)(ii) of this section, the procedure specified in 264.1083(d) of this subpart shall be used. (11/99)

(1) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, Appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, Appendix A of this chapter.

(2) A pressure measurement device shall be used that has a precision of ∀2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

264.1087 Standards: Closed-vent systems and control devices

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subpart.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in 264.1033(k) of this part.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in 264.1033(l).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of 264.1033(c) of this part; or

(iii) A flare designed and operated in accordance with the requirements of 264.1033(d) of this part.

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in 264.1089(e)(1)(v) of this subpart.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, and/or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of 264.1033(g) or 264.1033(h) of this part.

(ii) All carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of 264.1033(n), regardless of the average volatile organic concentration of the carbon. (11/99)

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of 264.1033(j) of this part.

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under part 270 and has designed and operates the unit in accordance with the requirements of part 266, subpart H; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of part 266, subpart H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in 264.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in 264.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in 264.1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Department do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Department may choose to have an authorized representative observe the performance test.

(7) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 264.1033(f)(2) and 264.1033(l). The readings from each monitoring device required by 264.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section. (11/99)

264.1088 Inspection and monitoring requirements

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subpart in accordance with the applicable requirements specified in 264.1084 through 264.1087 of this subpart.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 264.15.

264.1089 Recordkeeping requirements

(a) Each owner or operator of a facility subject to requirements of this subpart shall record and maintain the information specified in paragraphs (b) through (j) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraphs (i) and (j) of this section shall be maintained in the operating record for as long as the waste management unit is not using air emission controls specified in 264.1084 through 264.1087 of this subpart in accordance with the conditions specified in 264.1080(d) or 264.1080(b)(7) of this subpart, respectively. (11/99)

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of 264.1084 of this subpart shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of 264.1084 of this subpart, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by 264.1084 of this subpart that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the requirements of 264.1084 of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected. (11/99)

(2) In addition to the information required by paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in 264.1084(c) of this subpart shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of 264.1084(c) of this subpart. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in 264.1084(e) of this subpart shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in 264.1084(f) of this subpart shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by 264.1084(f)(3) of this subpart describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in 264.1084(f)(1) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in 264.1084(i) of this subpart shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741 Appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of 264.1085 of this subpart shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in 264.1085(c) of this subpart.

(3) A record for each inspection required by 264.1085 of this subpart that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of 264.1085(f) of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of 264.1086 of this subpart shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of 264.1087 of this subpart shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in 264.1035(b)(4). The documentation shall include information prepared by the owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with 264.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in 264.1035(b)(3) and all test results.

(iv) Information as required by 264.1035(c)(1) and 264.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of 264.1087(c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of 264.1087 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of 264.1087 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with 264.1087(c)(3)(ii) of this subpart.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of 264.1082(c) of this subpart shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, and containers exempted under the hazardous waste organic concentration conditions specified in 264.1082(c)(1) or 264.1082(c)(2)(i) through (c)(2)(vi) of this subpart, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of 264.1083 of this subpart. (11/99)

(2) For tanks, surface impoundments, or containers exempted under the provisions of 264.1082(c)(2)(vii) or 264.1082(c)(2)(viii) of this subpart, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated.

(g) An owner or operator designating a cover as "unsafe to inspect and monitor" pursuant to 264.1084(l) or 264.1085(g) of this subpart shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as "unsafe to inspect and monitor," the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subpart and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subpart by documentation either pursuant to this subpart, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by 40 CFR parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in 264.1084 through 264.1087 of this subpart in accordance with the conditions specified in 264.1080(d) of this subpart, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in 264.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under 264.1084 through 264.1087 of this subpart, are installed

and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(j) For each hazardous waste management unit not using air emission controls specified in 264.1084 through 264.1087 of this subpart in accordance with the requirements of 264.1080 (b)(7) of this subpart, the owner and operator shall record and maintain the following information: (11/99)

(1) Certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under part 60, part 61, or part 63.

(2) Identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

264.1090 Reporting requirements

(a) Each owner or operator managing hazardous waste in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of 264.1082(c) of this subpart shall report to the Department each occurrence when hazardous waste is placed in the waste management unit in noncompliance with the conditions specified in 264.1082 (c)(1) or (c)(2) of this subpart, as applicable. Examples of such occurrences include placing in the waste management unit a hazardous waste having an average VO concentration equal to or greater than 500 ppmw at the point of waste origination; or placing in the waste management unit a treated hazardous waste of which the organic content has been reduced by an organic destruction or removal process that fails to achieve the applicable conditions specified in 264.1082 (c)(2)(i) through (c)(2)(vi) of this subpart. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(b) Each owner or operator using air emission controls on a tank in accordance with the requirements 264.1084(c) of this subpart shall report to the Department each occurrence when hazardous waste is managed in the tank in noncompliance with the conditions specified in 264.1084(b) of this subpart. The owner or operator shall submit a written report within 15 calendar days of the time that the owner or operator becomes aware of the occurrence. The written report shall contain the EPA identification number, facility name and address, a description of the noncompliance event and the cause, the dates of the noncompliance, and the actions taken to correct the noncompliance and prevent recurrence of the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(c) Each owner or operator using a control device in accordance with the requirements of 264.1087 of this subpart shall submit a semiannual written report to the Department excepted as provided for in paragraph (d) of this section. The report shall describe each occurrence during the previous 6-month period when either:

(1) A control device is operated continuously for 24 hours or longer in noncompliance with the applicable operating values defined in 264.1035(c)(4); or

(2) A flare is operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in 264.1033(d).

The written report shall include the EPA identification number, facility name and address, and an explanation why the control device could not be returned to compliance within 24 hours, and actions taken to correct the noncompliance. The report shall be signed and dated by an authorized representative of the owner or operator.

(d) A report to the Department in accordance with the requirements of paragraph (c) of this section is not required for a 6-month period during which all control devices subject to this subpart are operated by the owner or operator such that:

(1) During no period of 24 hours or longer did a control device operate continuously in noncompliance

with the applicable operating values defined in 264.1035(c)(4); and

(2) No flare was operated with visible emissions for 5 minutes or longer in a two-hour period, as defined in 264.1033(d).

264.1091 [Reserved]

Subpart DD - Containment Buildings

264.1100 Applicability

The requirements of this subpart apply to owners or operators who store or treat hazardous waste in units designed and operated under 264.1101. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit: (6/08, 12/93)

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel, wastes, and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest practicable time, unless the unit has been granted a variance from the secondary containment system requirements under 264.1101(b)(4);

(d) Has controls sufficient to prevent fugitive dust emissions to meet the no visible emission standard in 264.1101(c)(1)(iv); and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

264.1101 Design and operating standards.

(12/93)

(a) All containment buildings must comply with the following design standards:

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. The Department will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for light-weight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g., a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to minimize the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of $1x10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10^{-5}$ m^2/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of 264.193(e)(1). In addition, the containment building must meet the requirements of 264.193(b) and 264.193(c) (1) and (2) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Department may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Department of their request by February 18, 1993. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Department on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Department.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions (see 40 CFR part 60, Appendix A, Method 22- Visual Determination of Fugitive Emissions from Material Sources and Smoke Emissions from Flares). In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices (see 40 CFR part 60 subpart 292 for guidance). This state of no visible emissions must be maintained effectively at all times during routine operating and maintenance conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain and keep on-site a certification by a qualified Professional Engineer that the containment building design meets the requirements of paragraphs (a), (b), and (c) of this section.

For units placed into operation prior to February 18, 1993, this certification must be placed in the facility's operating record (on-site files for generators who are not formally required to have operating records) no later than 60 days after the date of initial operation of the unit. After February 18, 1993, PE certification will be required prior to operation of the unit.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, the owner or operator must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Department of the condition, and within 14 working days, provide a written notice to the Department with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Department will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Department in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record, at least once every seven days, data gathered from monitoring and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For a containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart the Department may waive requirements for secondary containment for a permitted containment building where the owner operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

264.1102 Closure and post-closure care

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.) contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless 261.3(d) applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subparts G and H of this part. (12/93)

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (264.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

264.1103 - 264.1110 [Reserved]

Subpart EE - Hazardous Waste Munitions and Explosives Storage

264.1200 Applicability

The requirements of this subpart apply to owners or operators who store munitions and explosive hazardous wastes, except as 264.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (part 264, subpart DD), tanks (part 264, subpart J), or containers (part 264, subpart I); See 266.205 for storage of waste military munitions). (9/98)

264.1201 Design and operating standards

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

(1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated run-off, to the soil, ground water, surface water, and atmosphere;

(2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;

(3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;

(4) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subpart may be stored in one of the following:

(1) Earth-covered magazines. Earth-covered magazines must be:

(i) Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed;

(ii) Designed and constructed:

(A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

(B) To provide working space for personnel and equipment in the unit; and

(C) To withstand movement activities that occur in the unit; and

(iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(2) Above-ground magazines. Above-ground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) Outdoor or open storage areas. Outdoor or open storage areas must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of 264.14, the preparedness and prevention procedures of 264, subpart C, and the contingency plan and emergency procedures requirements of 264, subpart D, then these procedures will be used to fulfill those requirements.

(d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.

(e) Hazardous waste munitions and explosives must be inventoried at least annually.

(f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

264.1202 Closure and post-closure care

(a) At closure of a magazine or unit which stored hazardous waste under this subpart, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or units must meet all of the requirements specified in subparts G and H of this part, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (264.310).

Appendix I Recordkeeping Instructions

The recordkeeping provisions of 264.73 specify that an owner or operator must keep a written operating record at his facility. This Appendix provides additional instructions for keeping portions of the operating record. See 264.73(b) for additional recordkeeping requirements.

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from Part 261 of this Chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in Part 261 Subpart D, of this Chapter, the description also must include the process that produced it (for example, solid filter cake from production of --, EPA Hazardous Waste Number WO51).

Each hazardous waste listed in Part 261, Subpart D, of this chapter, and each hazardous waste characteristic defined in Part 261, Subpart C, of this chapter, has a four digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains

more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1:

Appendix 1 Table 1

Units of Measure	Code[1]
Gallons	G
Gallons per Hour	E
Gallons per Day	U
Liters	L
Liters per Hour	H
Liters per Day	V
Short Tons per Hour	D
Metric Tons per Hour	W
Short Tons per Day	N
Metric Tons per Day	S
Pounds per Hour	J
Kilograms per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's per Hour	I

[1] Single digit symbols are used here for data processing purposes.

(3) The methods (by handling code/s as specified in Table 2) and date(s) of treatment, storage or disposal.

Appendix I Table 2 - Handling Codes For Treatment, Storage, And Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage
S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (Specify)

2. Treatment
(a) Thermal Treatment -
T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

(b) Chemical Treatment-
T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical Oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment-
(1) Separation of components:
T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(2) Removal of Specific Components:
T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid Ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment
T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic tank
T71 Composting
T72 Septic Tank
T73 Spray irrigation
T74 Thickening filter
T75 Trickling filter
T76 Waste stabilization pond
T77 Other (specify)
T78 [Reserved]
T79 [Reserved]

(e) Boilers and Industrial Furnaces
T80 Boiler
T81 Cement Kiln
T82 Lime Kiln
T83 Aggregate Kiln
T84 Phosphate Kiln

T85 Coke Oven
T86 Blast Furnace
T87 Smelting, Melting, or Refining Furnace
T88 Titanium Dioxide Chloride Process Oxidation Reactor
T89 Methane Reforming Furnace
T90 Pulping Liquor Recovery Furnace
T91 Combustion Devise Used in the Recovery of Sulfur Values from Spent Sulfuric Acid
T92 Halogen Acid Furnaces
T93 Other Industrial Furnaces Listed in 260.10 (specify)

(f) Other Treatment
T94 Containment Building (Treatment)

3. Disposal
D79 Underground Injection
D80 Landfill
D81 Land Treatment
D82 Ocean Disposal
D83 Surface Impoundment (to be closed as a landfill)
D99 Other Disposal (specify)

4. Miscellaneous (Subpart X)
X01 Open Burning/Open Detonation
X02 Mechanical Processing
X03 Thermal Unit
X04 Geologic Repository
X99 Other Subpart X (specify)

Appendix II [Reserved]

Appendix III [Reserved]

Appendix IV Cochran's Approximation to the Behrens-Fisher Students' T-Test

Using all the available background data (n_b readings), calculate the background mean (X_B) and background variance (S_B^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (S_{m2}).

For any set of data (X_1. X_2...X_n) the mean is calculated by:

$$\overline{X} = \frac{X_1 + X_2 ... + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - \overline{X})^2 + (X_2 - \overline{X})^2 ... + (X_n - \overline{X})^2}{n-1}$$

where "n" denotes the number of observations in the set of data.
The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.
The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \overline{X}_s}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t^* will be compared, necessitates finding t_B and t_m from standard (one-tailed) tables where,
t_b = t-tables with (n_b -1) degrees of freedom, at the 0.05 level of significance.
t_m = t-tables with (n_m -1) degrees of freedom, at the 0.05 level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{s_b^2}{n_b} \text{ and } W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_b t_b + W_m t_m}{W_b + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:
If t^* is equal to or larger than t_c, then conclude that there most likely has been a significant increase in this specific parameter.
If t^* is less than t_c, then conclude that most likely there has not been a change in this specific parameter.
-The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.
If t^* is equal to or larger than t_c, then conclude that there most likely has been a significant increase (if the initial t^* had been negative, this would imply a significant decrease). If t_* is less than t_c, then conclude that there most likely has been no change.
A further discussion of the test may be found in Statistical Methods (6th Edition, Section 4.14) by G.W. Snedecor and W.G. Cochran, or Principles and Procedures of Statistics (1st Edition, Section 5.8) by R.G. D. Steel and J.H. Torrie

Appendix IV Standard T-Tables 0.05 Level of Significance

Degrees of freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "Statistical Tables for Biological, Agricultural, and Medical Research" (1947, R.A. Fisher and F. Yates)

Appendix V Examples of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

GROUP 1-A
Acetylene sludge
Alkaline caustic liquids
Alkaline cleaner
Alkaline corrosive liquids
Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies
Lime wastewater
Lime and water
Spent caustic

GROUP 1-B
Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid

Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid
Potential consequences: heat generation; violent reaction

GROUP 2-A
Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

GROUP 2-B
Any waste in Group 1-A or 1-B
Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

GROUP 3-A
Alcohols
Water

GROUP 3-B (8/00)
Any concentrated waste in Groups 1-A or 1-B
Calcium
Lithium
Metal hydrides
Potassium
SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3
Other water-reactive waste
Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

GROUP 4-A
Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

GROUP 4-B
Concentrated Group 1-A or 1-B wastes
Group 2-A waste
Potential consequences: Fire, explosion, or violent reaction.

GROUP 5-A
Spent cyanide and sulfide solutions

GROUP 5-B
Group 1-B wastes
Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

GROUP 6-A
Chlorates
Chlorine
Chlorites
Chromic acid
Hypochlorites
Nitrates
Nitric acid, fuming
Perchlorates
Permanganates
Peroxides
Other strong oxidizers

GROUP 6-B
Acetic acid and other organic acids
Concentrated mineral acids
Group 2-A wastesGroup 4-A wastes
Other flammable and combustible wastes
Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Wastes." California Department of Health, February 1975.

Appendix VI Political Jurisdictions[1] in Which Compliance With 264.18(a) Must be Demonstrated

Alaska
Aleutian Islands
Anchorage
Bethel
Bristol Bay
Cordova Valdez
Fairbanks Fort Yukon
Juneau
KenaiCook Inlet
Ketchikan Prince of Wales
Kodiak
Lynn CanalIcy Straits
Palmer Wasilla Talkeena
Seward
Sitka
Wade Hampton
Wrangell Petersburg
Yukon Kuskokwim

Arizona
Cochise
Graham
Greenlee
Yuma

California
All

Colorado
Archuleta
Conejos
Hinsdale
Mineral
Rio Grande
Saguache

Hawaii

Idaho
Bannock
Bear Lake
Bingham
Bonneville
Caribou
Cassia
Clark
Franklin
Fremont
Jefferson
Madison
Oneida
Power
Teton

Montana
Beaverhead
Broadwater
Cascade
Deer Lodge
Flathead
Gallatin
Granite
Jefferson
Lake
Lewis and Clark
Madison
Meagher
Missoula
Park
Powell
Sanders
Silver Bow
Stillwater
Sweet Grass
Teton
Wheatland

Nevada
All

New Mexico
Bernalillo
Catron
Grant
Hidalgo
Los Alamos
Rio Arriba
Sandoval
Sante Fe
Sierra
Socorro
Taos
Torrance
Valencia

Utah
Beaver
Box Elder
Cache
Carbon
Davis
Duchesne
Emery
Garfield
Iron
Juab
Millard
Morgan
Piute
Rich
Salt Lake
Sanpete
Sevier
Summit
Tooele
Utah
Wasatch
Washington
Wayne
Weber

Washington
Chelan
Clallam
Clark
Cowlitz
Douglas
Ferry
Grant
Grays Harbor
Jefferson
King
Kitsap
Kittitas
Lewis
Mason
Okanogan
Pacific
Pierce
San Juan Islands
Skagit
Skamania
Snohomish
Thurston
Wahkiakum
Whatcom
Yakima

Wyoming
Fremont
Lincoln
Park
Sublette
Teton
Uinta
Yellowstone National Park

[1]These include counties, city-county consolidations, and independent cities. In the case of Alaska, the political jurisdictions are election districts, and, in the case of Hawaii, the political jurisdiction listed is the island of Hawaii.

Appendix VII - VIII [Reserved]

Appendix IX Groundwater Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Acenapthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100 8270	200. 10.
Acenaphthylene	208-96-8	Acenaphthylene	8100 8270	200. 10.
Acetone	67-64-1	2-Propanone	8240	100.
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10.
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
2-Acetylamino-fluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	10.
Acrolein	107-02-8	2-Propenal	8030 8240	5. 5.
Acrylonitrile	107-13-1	2-Propenenitrile	8030 8240	5. 5.
Aldrin	309-00-2	1,4:5,8-Dimethano-naphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro- (1α,4α,4aß,5α,8α,8aß)-	8080 8270	0.05 10.
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010 8240	5. 100.
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine	8270	10.
Aniline	62-53-3	Benzenamine	8270	10.
Anthracene	120-12-7	Anthracene	8100 8270	200. 10.
Antimony	(Total)	Antimony	6010 7040 7041	300. 2,000. 30.
Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl) phenoxy]-1-methylethyl ester	8270	10.
Arsenic	(Total)	Arsenic	6010 7060 7061	500. 10. 20.
Barium	(Total)	Barium	6010 7080	20. 1,000.
Benzene	71-43-2	Benzene	8020 8240	2. 5.
Benzo[a]anthra-cene; Benzanthracene	56-55-3	Benz[a]anthra-cene	8100 8270	200. 10.
Benzo[b]fluoranthene	205-99-2	Benz[e]acephe-nanthrylene	8100 8270	200. 10.
Benzo[k]fluoranthene	207-08-9	Benzo[k] fluoranthene	8100 8270	200. 10.
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100 8270	200. 10.
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100 8270	200. 10.
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20.
Beryllium	(Total)	Beryllium	6010 7090 7091	3. 50. 2.
α-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3ß,4α,5ß,6ß)-	8080 8250	0.05 10.
ß-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2ß,3α,4ß, 5α,6ß)-	8080 8250	0.05 40.
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3α,4ß, 5α,6ß)-	8080 8250	0.1 30.
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1α,2α,3ß,4α,5α,6ß)-	8080 8250	0.05 10.
Bis(2-chloro-ethoxy)methane	111-91-1	Ethane, 1,1'-[methylenebis (oxy)]bis[2-chloro-	8270	10.
Bis(2-chloro-ethyl)ether	111-44-4	Ethane,1,1'-oxybis[2-chloro-	8270	10.
Bis(2-chloro-1-methylethyl) ether; 2,2'-Di-chlorodiis-opropyl ether	108-60-1	Propane, 2,2'oxybis[1-chloro-	8010 8270	100. 10.
Bis(2-ethyl-hexyl) phthalate	117-81-7	1,2-Benzenedicar-boxylic acid, bis(2-ethyl-hexyl)ester.	8060 8270	20. 10.
Bromodichloro-methane	75-27-4	Methane, bromodichloro-	8010 8240	1. 5.
Bromoform;Tri-bromomethane	75-25-2	Methane, tribromo-	8010 8240	2. 5.
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270	10.
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzene-dicarboxylic acid, butyl phenylmethyl ester.	8060 8270	5. 10.
Cadmium	(Total)	Cadmium	6010 7130 7131	40. 50. 1.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Carbon disulfide	75-15-0	Carbon disulfide	8240	5.
Carbon tetrachloride	56-23-5	Methane, tetrachloro-	8010 8240	1. 5.
Chlordane	57-74-9	4,7-Methano-1H-indene, 1,2,4, 5,6,7,8,8-octa-chloro-2,3,3a, 4,7,7a-hexahydro-	8080 8250	0.1 10.
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20.
Chlorobenzene	108-90-7	Benzene, chloro-	8010 8020 8240	2. 2. 5.
Chlorobenzi-late	510-15-6	Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-,ethyl ester.	8270	10.
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-	8040 8270	5. 20.
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010 8240	5. 10.
Chloroform	67-66-3	Methane, trichloro-	8010 8240	0.5 5.
2-Chloro-naphthalene	91-58-7	Naphthalene, 2-chloro-	8120 8270	10. 10.
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040 8270	5. 10.
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270	10.
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010 8240	50. 5.
Chromium	(Total)	Chromium	6010 7190 7191	70. 500. 10.
Chrysene	218-01-9	Chrysene	8100 8270	200. 10.
Cobalt	(Total)	Cobalt	6010 7200 7201	70. 500. 10.
Copper	(Total)	Copper	6010 7210	60. 200.
m-Cresol	108-39-4	Phenol, 3-methyl-	8270	10.
o-Cresol	95-48-7	Phenol, 2-methyl-	8270	10.
p-Cresol	106-44-5	Phenol, 4-methyl-	8270	10.
Cyanide	57-12-5	Cyanide	9010	40.
2,4-D; 2,4-Dichlorophenox-yacetic acid	94-75-7	Acetic acid, (2,4-dichloro-phenoxy)-	8150	10.
4,4'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloro-ethylidene)bis[4-chloro-	8080 8270	0.1 10.
4,4'-DDE	72-55-9	Benzene, 1,1'-(-dichloro-eth-enylidene)bis[4-chloro-	8080 8270	0.05 10.
4,4'-DDT	50-29-3	Benzene, 1,1'-(2,2,2-tri-chloroethyl-idene)bis[4-chloro-,	8080 8270	0.1 10.
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-di-chloro-2-pro-penyl) ester.	8270	10.
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100 8270	200. 10.
Dibenzofuran	132-64-9	Dibenzofuran	8270	10.
Dibromochloro-methane; Chlorodibromo-methane	124-48-1	Methane, dibromochloro-	8010 8240	1. 5.
1,2-Dibromo-3-chloropropane; DBCP.	96-12-8	Propane, 1,2-dibromo-3-chloro-	8010 8240 8270	100. 5. 10.
1,2-Dibromo-ethane; Ethylene dibromide	106-93-4	Ethane, 1,2-dibromo-	8010 8240	10. 5.
Di-n-butyl phthalate	84-74-2	1,2-Benzene-dicarboxylic acid, dibutyl ester	8060 8270	5. 10.
o-Dichloro-benzene	95-50-1	Benzene, 1,2-dichloro-	8010 8020 8120 8270	2. 5. 10. 10.
m-Dichloro-benzene	541-73-1	Benzene, 1,3-dichloro-	8010 8020	5. 5.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
			8120 8270	10. 10.
p-Dichloro-benzene	106-46-7	Benzene, 1,4-dichloro-	8010 8020 8120 8270	2. 5. 15. 10.
3,3-Dichloro-benzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270	20.
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8240	5.
Dichlorodi-fluoromethane	75-71-8	Methane, di-chlorodifluoro-	8010 8240	10. 5.
1,1-Dichloroethane	75-34-3	Ethane, 1,1-dichloro-	8010 8240	1. 5.
1,2-Dichloro-ethane; Ethylene dichloride	107-06-2	Ethane, 1,2-dichloro-	8010 8240	0.5 5.
1,1-Dichloro-ethylene; Vinylidene chloride	75-35-4	Ethene, 1,1-dichloro-	8010 8240	1. 5.
trans-1,2-Dichloro-ethylene	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010 8240	1. 5.
2,4-Dichloro-phenol	120-83-2	Phenol, 2,4-dichloro-	8040 8270	5. 10.
2,6-Dichloro-phenol	87-65-0	Phenol, 2,6-dichloro-	8270	10.
1,2-Dichloro-propane	78-87-5	Propane, 1,2-dichloro-	8010 8240	0.5 5.
cis-1,3-Di-chloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010 8240	20. 5.
trans-1,3-Dichloro-propene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010 8240	5. 5.
Dieldrin	60-57-1	2,7:3,6-Dimetha-nonaphth[2,3-b] oxirene,3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aα,2ß,2aα,3ß,6ß,6aα,7ß,7aα)-	8080 8270	0.05 10.
Diethyl phthalate	84-66-2	1,2-Benzene-dicarboxylic acid, diethyl ester	8060 8270	5. 10.
O,O-Diethyl O-2-pyrazinyl phosphorothi-oate;Thionazin	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.	8270	10.
Dimethoate	60-51-5	Phosphorodithi-oic acid,O,O-dimethyl S-[2-(methylamino)-2-oxoethyl]ester	8270	10.
p-(Dimethylam-ino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10.
7,12-Dimethyl-benz[a]anthra-cene	57-97-6	Benz[a]anthra-cene, 7,12-dimethyl-	8270	10.
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10.
α, α-Dimethyl-phenethylamine	122-09-8	Benzeneethan-amine, α,α-dimethyl-	8270	10.
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl-	8040 8270	5. 10.
Dimethyl phthalate	131-11-3	1,2-Benzene-dicarboxylic acid, dimethyl ester	8060 8270	5. 10.
m-Dinitro-benzene	99-65-0	Benzene, 1,3-dinitro-	8270	10.
4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro	8040 8270	150. 50.
2,4-Dinitro-phenol	51-28-5	Phenol, 2,4-dinitro	8040 8270	150. 50.
2,4-Dinitro-toluene	121-14-2	Benzene, 1-methyl,2,4-dinitro	8090 8270	0.2 10.
2,6-Dinitro-toluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090 8270	0.1 10.
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitro-phenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro	8150 8270	1. 10.
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicar-boxylic acid, dioctyl ester	8060 8270	30. 10.
1,4-Dioxane	123-91-1	1,4-Dioxane	8015	150.
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10.
Disulfoton	298-04-4	Phosphorodithi-oic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	8140 8270	2. 10.
Endosulfan I	959-98-8	6,9-Methano-2, 4,3-benzodi-oxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide, (3α, 5aß, 6α, 9α, 9aß)-.	8080 8250	0.1 10.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Endosulfan II	33213-65-9	6,9-Methano-2, 4,3-benzodi-oxathiepin,6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-,3-oxide, (3α,5aα, 6ß,9ß,9aα)-.	8080	0.05
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodi-oxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide	8080 8270	0.5 10.
Endrin	72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-(1aα,2ß,2aß,3α,6α, 6aß,7ß,7aα)-	8080 8250	0.1 10.
Endrin aldehyde	7421-93-4	1,2,4-Methenocy-clopenta[cd]pentalene-5-carbox-aldehyde, 2,2a, 3,3,4,7-hexa-chlorodecahydro-,(1α,2ß,2aß,4ß,4aß,5ß,6aß,6bß,7R*)-	8080 8270	0.2 10.
Ethylbenzene	100-41-4	Benzene, ethyl-	8020 8240	2. 5.
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8240 8270	10. 5. 10.
Ethyl methane-sulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	10.
Famphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester	8270	10.
Fluoranthene	206-44-0	Fluoranthene	8100 8270	200. 10.
Fluorene	86-73-7	9H-Fluorene	8100 8270	200. 10.
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080 8270	0.05 10.
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexahydro-, (1aα,1bß,2α,5α,5aß,6ß,6aα)	8080 8270	1. 10.
Hexachloro-benzene	118-74-1	Benzene, hexachloro-	8120 8270	0.5 10.
Hexachloro-butadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120 8270	5. 10.
Hexachlorocy-clopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120 8270	5. 10.
Hexachloro-ethane	67-72-1	Ethane, hexachloro-	8120 8270	0.5 10.
Hexachloro-phene	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	8270	10.
Hexachloro-propene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10.
2-Hexanone	591-78-6	2-Hexanone	8240	50.
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno[1,2,3-cd]pyrene	8100 8270	200. 10.
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015	50.
Isodrin	465-73-6	1,4,5,8-Dimethanonaph-thalene, 1,2,3, 4,10,10-hexa- chloro-1,4,4a,5, 8,8a hexahydro-(1α,4α,4aß,5ß,8ß,8aß)-	8270	10.
Isophorone	78-59-1	2-Cyclohexen-1-one,3,5,5-trimethyl-	8090 8270	60. 10.
Isosafrole	120-58-1	1,3-Benzodi-oxole, 5-(1-propenyl)-	8270	10.
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta-[cd]pentalen-2-one, 1,1a,3,3a, 4,5,5,5a,5b,6-decachloro-octahydro-	8270	10.
Lead	(Total)	Lead	6010 7420 7421	40. 1,000. 10.
Mercury	(Total)	Mercury	7470	2.
Methacrylo-nitrile	126-98-7	2-Propeneni-trile, 2-methyl-	8015 8240	5. 5.
Methapyrilene	91-80-5	1,2,Ethanedia-mine, N,N-di-methyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	8270	10.
Methoxychlor	72-43-5	Benzene, 1,1'-(2,2,2,tri-chloroethylidene)bis[4-methoxy-	8080 8270	2. 10.
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010 8240	20. 10.
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010 8240	1. 10.
3-Methylcho-lanthrene	56-49-5	Benz[j]acean-thrylene, 1,2-dihydro-3-methyl-	8270	10.
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010 8240	15. 5.
Methylene chloride; Dichloro-methane	75-09-2	Methane, dichloro-	8010 8240	5. 5.
Methyl ethyl ketone (MEK)	78-93-3	2-Butanone	8015 8240	10. 100.
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010 8240	40. 5.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015 8240	2. 5.
Methyl methanesul-fonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10.
2-Methylnaph-thalene	91-57-6	Naphthalene, 2-methyl-	8270	10.
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitro-phenyl) ester	8140 8270	0.05 10.
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8015 8240	5. 50.
Naphthalene	91-20-3	Naphthalene	8100 8270	200. 10.
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10.
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10.
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10.
Nickel	(Total)	Nickel	6010 7520	50. 400.
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50.
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50.
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro-	8270	50.
Nitrobenzene	98-95-3	Benzene, nitro-	8090 8270	40. 10.
o-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040 8270	5. 10.
p-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040 8270	10. 50.
4-Nitroqui-noline 1-oxide	56-57-5	Quinoline, 4-nitro-, 1-oxide	8270	10.
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine,N-butyl-N-nitroso-	8270	10.
N-Nitrosodi-ethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	10.
N-Nitrosodi-methylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8270	10.
N-Nitrosodi-phenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8270	10.
N-Nitrosodi-propylamine; Di-n-propyl-nitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8270	10.
N-Nitroso-methylethyl-amine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10.
N-Nitroso-morpholine	59-89-2	Morpholine, 4-nitroso-	8270	10.
N-Nitroso-piperidine	100-75-4	Piperidine, 1-nitroso-	8270	10.
N-Nitrosopyr-rolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	10.
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10.
Parathion	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitro-phenyl) ester	8270	10.
Polychlorina-ted biphenyls; PCBs	See Note 7	1,1'-Biphenyl, chloro derivatives	8080 8250	50. 100.
Polychlorina-ted dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e] [1,4]dioxin, chloro derivatives	8280	0.01
Polychlorina-ted dibenzo-furans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives	8280	0.01
Pentachloro-benzene	608-93-5	Benzene, pentachloro-	8270	10.
Pentachloro-ethane	76-01-7	Ethane, pentachloro-	8240 8270	5. 10.
Pentachloro-nitrobenzene	82-68-8	Benzene, penta-chloronitro-	8270	10.
Pentachloro-phenol	87-86-5	Phenol, pentachloro-	8040 8270	5. 50.
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	10.
Phenanthrene	85-01-8	Phenanthrene	8100 8270	200. 10.
Phenol	108-95-2	Phenol	8040 8270	1. 10.
p-Phenylene-diamine	106-50-3	1,4-Benzenediamine	8270	10.
Phorate	298-02-2	Phosphorodithi-oic acid, O,O-diethyl S-[(ethylthio) methyl]ester	8140 8270	2. 10.
2-Picoline	109-06-8	Pyridine, 2-methyl-	8240 8270	5. 10.
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10.
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015 8240	60. 5.
Pyrene	129-00-0	Pyrene	8100 8270	200. 10.
Pyridine	110-86-1	Pyridine	8240 8270	5. 10.

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Safrole	94-59-7	1,3-Benzodi-oxole, 5-(2-propenyl)-	8270	10.
Selenium	(Total)	Selenium	6010 7740 7741	750. 20. 20.
Silver	(Total)	Silver	6010 7760	70. 100.
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-tri-chlorophenoxy)-	8150	2.
Styrene	100-42-5	Benzene, ethenyl-	8020 8240	1. 5.
Sulfide	18496-25-8	Sulfide	9030	10,000.
2,4,5-T; 2,4,5-Tri-chlorophenoxy-acetic acid	93-76-5	Acetic acid, (2,4,5-tri-chlorophenoxy),-	8150	2.
2,3,7,8-TCDD;2,3,7,8-Tetrachloro-dibenzo-p-dioxin	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005
1,2,4,5-Tetrachloro-benzene	95-94-3	Benzene,1,2,4,5-tetrachloro-	8270	10.
1,1,1,2-Tetrachloro-ethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010 8240	5. 5.
1,1,2,2-Tetrachloro-ethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010 8240	0.5 5.
Tetrachloro-ethylene; Perchloro-ethylene; Tetrachloro-ethene	127-18-4	Ethene, tetrachloro-	8010 8240	0.5 5.
2,3,4,6-Tetrachloro-phenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10.
Tetraethyl dithiopyro-phosphate; Sulfotepp	3689-24-5	Thiodiphosphoric acid ($[HO)_2P(S)]_2O$), tetraethyl ester	8270	10.
Thallium	(Total)	Thallium	6010 7840 7841	400. 1,000. 10.
Tin	(Total)	Tin	7870	8,000.
Toluene	108-88-3	Benzene, methyl-	8020 8240	2. 5.
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10.
Toxaphene	8001-35-2	Toxaphene	8080 8250	2. 10.
1,2,4-Tri-chlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8270	10.
1,1,1-Tri-chloroethane; Methylchloro-form	71-55-6	Ethane, 1,1,1-trichloro-	8240	5.
1,1,2-Trichloro-ethane	79-00-5	Ethane, 1,1,2-trichloro-	8010 8240	0.2 5.
Trichloro-ethylene; Trichloro-ethene	79-01-6	Ethene, trichloro-	8010 8240	1. 5.
Trichloro-fluoromethane	75-69-4	Methane, trichlorofluoro-	8010 8240	10. 5.
2,4,5-Tri-chlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10.
2,4,6-Tri-chlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040 8270	5. 10.
1,2,3-Tri-chloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010 8240	10. 5.
O,O,O,-Triethyl phosphoro-thioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10.
sym-Trinitro-benzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10.
Vanadium	(Total)	Vanadium	6010 7910 7911	80. 2,000. 40.
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8240	5.
Vinyl chloride	75-01-4	Ethene, chloro-	8010 8240	2. 10.
Xylene (total)	1330-20-7	Benzene, dimethyl-	8020 8240	5. 5.
Zinc	(Total)	Zinc	6010 7950	20. 50.

[1]The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3]Chemical Abstracts Service registry number. Where Total is entered, all species in the groundwater that contain this element are included.

[4]CAS index names are those used in the 9th Cumulative Index.

[5] Suggested methods refer to analytical procedure numbers used in the EPA publication, SW-846, "Test Methods for Evaluating Solid Waste," Third Edition. Analytical details can be found in SW-846 and in documentation on file at the Agency. The packed column gas chromatography methods 8010, 8020, 8030, 8040, 8060, 8080, 8090, 8110, 8120, 8140, 8150, 8240, and 8250 were promulgated methods through Update IIB of SW-846 and, as of Update III, the Agency has replaced these methods with "capillary column GC methods," as the suggested methods. (9/98)

[6]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in groundwaters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[7]Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor1016 (CAS RN 12674-11-2), Aroclor1221 (CAS RN 11104-28-2), Aroclor1232 (CAS RN 11141-16-5), Aroclor1242 (CAS RN 53469-21-9), Aroclor1248 (CAS RN 12672-29-6), Aroclor1254 (CAS RN 11097-69-1), and Aroclor1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[8]This category contains congener chemicals, including tetrachlorodibenzopdioxins (see also 2,3,7,8TCDD), pentachlorodibenzopdioxins, and hexachlorodibenzopdioxins. The PQL shown is an average value for PCDD congeners.

[9]This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners

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265 - Interim Status Standards for Owners and Operators of Hazardous Waste Management, Storage, and Disposal Facilities

Subpart A - GENERAL

265.1 Purpose, scope, and applicability

(a) The purpose of this part is to establish minimum national standards that define the acceptable management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to postclosure requirements, until post-closure responsibilities are fulfilled. (12/93)

(b) Except as provided in 265.1080(b), the standards of this part, and of 264.552, 264.553 and 264.554, apply to owners and operators of facilities that treat, store or dispose of hazardous waste who have fully complied with the requirements for interim status under 44-56-60 and section 3005(e) of RCRA and 270.70 until either a permit is issued under 44-56-60 and section 3005 of RCRA or until applicable part 265 closure and postclosure responsibilities are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required under section 44-56-120 of the 1976 Code of Laws of South Carolina and by section 3010(a) of RCRA, as amended, and/or failed to file part A of the permit application as required by 270.10 (e) and (g). These standards apply to all treatment, storage and disposal of hazardous waste at these facilities after the effective date of these regulations, except as specifically provided otherwise in this part or part 261. (12/92; 12/93, 9/98; 8/00)

[Comment: As stated in 44-56-60 and section 3005(a) of RCRA, after the effective date of regulations under that section (i.e., parts 270 and 124), the treatment, storage and disposal of hazardous waste is prohibited except in accordance with a permit. 44-56-50 and Section 3005(e) of RCRA provides for the continued operation of an existing facility that meets certain conditions, until final administrative disposition of the owner's and operator's permit application is made.] (12/92)

(c) The requirements of this part do not apply to:

(1) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act;

[Comment: These part 265 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this section.] (12/92; 12/93)

(2) A person disposing of hazardous waste by means of underground injection subject to a permit issued under R.61-87, the State Underground Injection Control (UIC) regulations, except these regulations do apply to the above ground treatment or storage of hazardous waste before it is injected underground. These regulations also apply to the disposal of hazardous waste by means of underground injection, as provided in paragraph (b) of this section, until final administrative disposition of a person's permit application is made.

(3) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[Comment: The owner or operator of a facility under paragraphs (c)(1) through (3) of this section is subject to the requirements of part 264 to the extent they are included in a permit by rule granted to such a person under R.61-79.270 (12/92)

(4) [Reserved]

(5) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by 261.5; (12/92; 12/93)

(6) The owner and operator of a facility managing recyclable materials described in 261.6 (a)(2), (3), and (4) (except to the extent they are referred to in subparts C, F, G or H of part 266). (5/96)

(7) A generator accumulating waste onsite in compliance with 262.34, except to the extent the requirements are included in 262.34; (12/92)

(8) A farmer disposing of waste pesticides from his own use in compliance with section 262.70; or (12/93)

(9) The owner or operator of a totally enclosed treatment facility, as defined in section 260.10.

(10) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in 260.10 of these regulations, provided that if

the owner or operator is diluting hazardous ignitable (D001) wastes (other than the D001 High TOC Subcategory defined in 268.40, Table Treatment Standards for Hazardous Wastes), or reactive (D003) waste, to remove the characteristic before land disposal, the owner/operator must comply with the requirements set out in 265.17(b). (12/93; 5/96)

(11) (i) Except as provided in paragraph (c)(11)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations: (12/93)

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of a hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment, from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 260.10. (9/98)

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of subparts C and D.

(iii) Any person who is covered by paragraph (c)(11)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and R.61-79.270 and .124 for those activities.

(iv) In the case of an explosives or munitions emergency response, if a Federal, State, Tribal or local official acting within the scope of his or her official responsibilities, or an explosives or munitions emergency response specialist, determines that immediate removal of the material or waste is necessary to protect human health or the environment, that official or specialist may authorize the removal of the material or waste by transporters who do not have EPA identification numbers and without the preparation of a manifest. In the case of emergencies involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition. (9/98)

(12) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of part 262.30 at a transfer facility for a period of ten days or less.

(13) The addition of absorbent material to waste in a container (as defined in part 260.10 or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is first placed in the containers; and part 265.17(b), and 265.171 and 265.172 are complied with. (12/93)

(14) Universal waste handlers and universal waste transporters (as defined in R.61-79.260.10) handling the wastes listed below. These handlers are subject to regulation under R.61-79.273, when handling the below listed universal wastes. (5/96, 8/00)

(i) Batteries as described in R.61-79.273.2;

(ii) Pesticides as described in 273.3,

(iii) Mercury containing equipment as described in 273.4; and (6/07)

(iv) Lamps as described in 273.5.

(d) The following hazardous wastes must not be managed at facilities subject to regulation under this part.

(1) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027 unless:

(i) The wastewater treatment sludge is generated in a surface impoundment as part of the plant's wastewater treatment system;

(ii) The waste is stored in tanks or containers;

(iii) The waste is stored or treated in waste piles that meet the requirements of part 264.250(c) as well as all other applicable requirements of subpart L of this part;

(iv) The waste is burned in incinerators that are certified pursuant to the standards and procedures in 265.352; or

(v) The waste is burned in facilities that thermally treat the waste in a device other than an incinerator and that are certified pursuant to the standards and procedures in 265.383.

(e) The requirements of this part apply to owners or operators of all facilities which treat, store or dispose of hazardous waste referred to in part 268, and the part 268 standards are considered material conditions or requirements of the part 265 interim status standards. (11/90, 12/92)

(f) Section 266.205 of this chapter identifies when the requirements of this part apply to the storage of military munitions classified as solid waste under 266.202 of this chapter. The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in parts 260 through 270. (9/98)

265.2 - 265.3 [Reserved]

265.4 Imminent hazard action

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to section 44-56-50 of the S.C. Code of Laws of 1976 as amended and Section 7003 of RCRA.

265.5 Notification requirements upon owners and operators of hazardous waste facilities

(a) Any person who owns or operates a facility within the State which treats, stores, or disposes of a hazardous waste and has not previously done so shall file a completed Notification Form with the Department within thirty (30) days of the effective date of this

regulation.

(b) Any person who plans to construct a new facility to treat, store or dispose of hazardous waste shall file a completed Notification Form with the Department as part of his permit application.

(c) Any person who owns or operates a facility which treats, stores or disposes of a hazardous waste which is classified or listed for the first time by a revision of R.61-79.261 shall file a revised or new Notification Form for that waste with the Department within ninety (90) days after the effective date of such revision.

(d) The notification shall be on a form designated by the Department and shall be completed as required by the instruction supplied with such form. The information to be furnished on the form shall include but not be limited to the location and general description of such activity, the identified or listed hazardous wastes handled by such person, and, if applicable, a description of the production or energy recovery activity 1 carried out at the facility and such other information as the Department deems necessary.

(e) Persons engaged in the following activities are required to make a separate notification:

(1) Producers of fuels from:

(i) Any hazardous wastes identified or listed in R.61-79.261;

(ii) Used oil; and

(iii) Used oil and any other material.

(2) Burners (other than a single or two-family residence) for purposes of energy recovery, any fuel produced identified in paragraph 1 above.

(3) Distributors or marketers of any fuel as identified in paragraph 1 above.

Subpart B - GENERAL FACILITY STANDARDS

265.10 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as section 265.1 provides otherwise.

265.11 Identification number

Every facility owner or operator must apply to the Department for an EPA identification number in accordance with the Department notification requirements of R.61-79.264.11.

265.12 Required notices

(a) (1) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Department and the EPA Region IV Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required. (12/93, 9/98)

(2) The owner or operator of a recovery facility that has arranged to receive hazardous waste subject to 262, subpart H must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460 and to the competent authorities of all other concerned countries within three working days of receipt of the shipment. The original of the signed tracking document must be maintained at The facility for at least three years. (9/98)

[Comment: An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements. (6/97)]

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and part 270 of this chapter. (Also see 270.72.)

(c) (6/95, 9/98)

(d) The owner or operator of a facility that receives hazardous waste from an offsite source must inform the generator in writing that he has the appropriate permit(s) under these regulations for, and will accept, the waste the generator is shipping. [moved from (c) 6/95]

265.13 General waste analysis

(a) (1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or nonhazardous wastes if applicable under section 265.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes. At a minimum, the analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with this part and part 268. (11/90; 12/93)

(2) The analysis may include data developed under part 261, and existing published or documented data on the hazardous waste or on waste generated from similar processes. (12/92)

Comment: For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an offsite facility may arrange for the generator of the hazardous waste to supply part or all of the information required by paragraph (a)(1) of this section, except as otherwise specified in 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.] (12/92; 12/93)

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or nonhazardous wastes, if applicable, under 265.113(d) has changed (12/92); and

(ii) For offsite facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an offsite facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or nonhazardous waste if applicable under 265.113(d), will be analyzed and the rationale for the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in Appendix I of part 261; or

(ii) An equivalent sampling method.

[Comment: See 260.20(c) for related discussion.]

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) For offsite facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in 265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034(d), 265.1063(d), 265.1084, and 268.7 of these regulations. (11/90, 12/92; 12/93, 9/98)

(7) For surface impoundments exempted from land disposal restrictions under 268.4(a), the procedures and schedule for: (11/90)

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under 260.22 or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of part 268, subpart D; or

(B) Where no treatment standards have been established;

(1) Such residues are prohibited from land disposal under 268.32 or RCRA section 3004(d); or

(2) Such residues are prohibited from land disposal under 268.33(f).

(8) For owners and operators seeking an exemption to the air emission standards of Subpart CC of this part in accordance with 265.1083- (9/98)

(i) If direct measurement is used for the waste determination, the procedures and schedules for waste sampling and analysis, and the results of the analysis of test data to verify the exemption.

(ii) If knowledge of the waste is used for the waste determination, any information prepared by the facility owner or operator or by the generator of the hazardous waste, if the waste is received from off-site, that is used as the basis for knowledge of the waste.

(c) For offsite facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(3) The procedures that the owner or operator of an off-site landfill receiving containerized hazardous waste will use to determine whether a hazardous waste generator or treater has added a biodegradable sorbent to the waste in the container. (12/93)

265.14 Security

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, unless (12/92):

(1) Physical contact with the waste, structures, or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and (12/93)

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

(b) Unless exempt under paragraphs (a)(1) and (2) of

this section, a facility must have (12/92):

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards of facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or (12/93)

(2) (i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[Comment: The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section. (11/90, 12/92)]

(c) Unless exempt under paragraphs (a)(1) and (a)(2) of this section, a sign with the legend, "Danger - Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger - Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous. (12/92)

[Comment: See 265.117(b) for discussion of security requirements at disposal facilities during the postclosure care period.] (12/92)

265.15 General inspection requirements

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing - or may lead to:

(1) Release of hazardous waste constituents to the environment or

(2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b) (1) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, the frequency should be based on the rate of deterioration of the equipment and the probability of an environmental or human health incident if the deterioration malfunction, or operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the items and frequencies called for in 265.174, 265.193, 265.195, 265.226, 265.260, 265.278, 265.304, 265.347, 265.377, 265.403, 265.1033, 265.1052, 265.1053, 265.1058, and 265.1084 through 265.1090, where applicable. (12/92; 12/93, 12/98, 11/99, 6/08)

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records at the facility for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions. (5/93)

265.16 Personnel training

(a) (1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to groundwater contamination incidents; and

(vi) Shutdown of operations.

(4) For facility employees that receive emergency response training pursuant to Occupational Safety and Health Administration (OSHA) regulations 29 CFR 1910.120(p)(8) and 1910.120(q), the facility is not required to provide separate emergency response training pursuant to this section, provided that the overall facility training meets all the requirements of this section. (6/08)

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this Section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of facility personnel assigned to each position; (11/90)

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

265.17 General requirements for ignitable, reactive, or incompatible wastes

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste. (11/90)

(b) Where specifically required by other sections of this part, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes or incompatible wastes and materials, must be conducted so that it does not: (11/90, 12/92; 12/93)

(1) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility containing the waste; or

(5) Through other like means threaten human health or the environment.

265.18 Location standards [See also R.61-104]

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited.

265.19 Construction quality assurance program.

(a) CQA program. (12/93)

(1) A construction quality assurance (CQA) program is required for all surface impoundment, waste pile, and landfill units that are required to comply with 265.221(a), 265.254, and 265.301(a). The program must ensure that the constructed unit meets or exceeds all design criteria and specifications in the permit. The program must be developed and implemented under the direction of a CQA officer who is a registered professional engineer.

(2) The CQA program must address the following physical components, where applicable:

(i) Foundations;

(ii) Dikes;

(iii) Low-permeability soil liners;

(iv) Geomembranes (flexible membrane liners);

(v) Leachate collection and removal systems and leak detection systems; and

(vi) Final cover systems.

(b) Written CQA plan. Before construction begins on a unit subject to the CQA program under paragraph (a) of this section, the owner or operator must develop a

written CQA plan. The plan must identify steps that will be used to monitor and document the quality of materials and the condition and manner of their installation. The CQA plan must include:

(1) Identification of applicable units, and a description of how they will be constructed.

(2) Identification of key personnel in the development and implementation of the CQA plan, and CQA officer qualifications.

(3) A description of inspection and sampling activities for all unit components identified in paragraph (a)(2) of this section, including observations and tests that will be used before, during, and after construction to ensure that the construction materials and the installed unit components meet the design specifications. The description must cover: Sampling size and locations; frequency of testing; data evaluation procedures; acceptance and rejection criteria for construction materials; plans for implementing corrective measures; and data or other information to be recorded and retained in the operating record under 265.73.

(c) Contents of program.

(1) The CQA program must include observations, inspections, tests, and measurements sufficient to ensure:

(i) Structural stability and integrity of all components of the unit identified in paragraph (a)(2) of this section;

(ii) Proper construction of all components of the liners, leachate collection and removal system, leak detection system, and final cover system, according to permit specifications and good engineering practices, and proper installation of all components (e.g., pipes) according to design specifications;

(iii) Conformity of all materials used with design and other material specifications under 264.221, 264.251, and 264.301.

(2) The CQA program shall include test fills for compacted soil liners, using the same compaction methods as in the full- scale unit, to ensure that the liners are constructed to meet the hydraulic conductivity requirements of 264.221(c)(1), 264.251(c)(1), and 264.301(c)(1) in the field. Compliance with the hydraulic conductivity requirements must be verified by using in-situ testing on the constructed test fill. The test fill requirement is waived where data are sufficient to show that a constructed soil liner meets the hydraulic conductivity requirements of 264.221(c)(1), 264.251(c)(1), and 264.301(c)(1) in the field.

(d) Certification. The owner or operator of units subject to 265.19 must submit to the Department by certified mail or hand delivery, at least 30 days prior to receiving waste, a certification signed by the CQA officer that the CQA plan has been successfully carried out and that the unit meets the requirements of 265.221(a), 265.254, or 265.301(a). The owner or operator may receive waste in the unit after 30 days from the Department receipt of the CQA certification unless the Department determines in writing that the construction is not acceptable, or extends the review period for a maximum of 30 more days, or seeks additional information from the owner or operator during this period. Documentation supporting the CQA officer's certification must be furnished to the Department upon request.

Subpart C - PREPAREDNESS AND PREVENTION

265.30 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as section 265.1 provides otherwise. (12/92)

265.31 Maintenance and operation of facility

Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment. (12/92)

265.32 Required equipment

All facilities must be equipped with the following, unless none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below (12/92):

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

265.33 Testing and maintenance of equipment

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

265.34 Access to communications or alarm system

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, unless the Department has ruled that such a device is not required under section 265.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, unless the Department has ruled that such a device is not required under section 265.32.

265.35 Required aisle space

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless it can be demonstrated to the Department that aisle space is not needed for any of these purposes.

265.36 [Reserved]

265.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes; (12/93)

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subpart D - CONTINGENCY PLANS AND EMERGENCY PROCEDURES

265.50 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as section 265.1 provides otherwise. (12/92)

265.51 Purpose and implementation of contingency plan

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

265.52 Content of contingency plan

(a) The contingency plan must describe the actions facility personnel must take to comply with sections 265.51 and 265.56 in response to fires, explosions, or any unplanned sudden or nonsudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water at the facility.

(b) If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR part 112, or some other emergency or contingency plan, he need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this part. The owner or operator may develop one contingency plan which meets all regulatory requirements. EPA recommends that the plan be based on the National Response Team's Integrated Contingency Plan Guidance (''One Plan''). When modifications are made to non-RCRA provisions in an integrated contingency plan, the changes do not trigger the need for a RCRA permit modification. (12/92; 12/93, 6/08)

(c) The plan must describe arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to 265.37. (12/92)

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see section 265.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

265.53 Copies of contingency plan

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

265.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) Applicable regulations are revised;

(b) The plan fails in an emergency;

(c) The facility changes - in its design, construction, operation, maintenance, or other circumstances - in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

265.55 Emergency coordinator

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[Comment: The emergency coordinator's responsibilities are more fully spelled out in section 265.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.] (12/92)

265.56 Emergency procedures

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and area extent of any released materials and notify the Department per section 265.56(d)(2). He may do this by observation or review

of facility records or manifests and, if necessary, by chemical analysis. (11/90, 6/04)

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water runoffs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify the Department (using its 24-hour number 803-253-6488) and the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include: (12/92)

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[Comment: Unless the owner or operator can demonstrate, in accordance with part 261.3(c) or (d), that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of R.61-79.262 Standards Applicable to Generators of Hazardous Waste, R.61-79.263 Standards Applicable to Transporters of Hazardous Waste and of 61-79.265.] (12/92)

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Department. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

Subpart E - MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING

265.70 Applicability

(a) The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as 265.1 provides otherwise. Sections 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources, nor to owners and operators of off-site facilities with respect to waste military munitions exempted from manifest requirements of 266.203(a). (12/92, 9/98, 2/07)

(b) The revised Manifest form and procedures in 260.10, 261.7, 265.70, 265.71. 265.72, and 265.76, shall not apply until September 5, 2006. The Manifest form and procedures in 260.10, 261.7, 265.70, 265.71. 265.72, and 265.76, contained in previous editions of 260 to 265, edition revised as of July 1, 2004, shall be applicable until September 5, 2006. (2/07)

265.71 Use of manifest system

(a)(1) If a facility receives hazardous waste accompanied by a manifest, the owner, operator or his/her agent must: sign and date the manifest as indicated in paragraph (a)(2) of this section to certify that the hazardous waste covered by the manifest was received, except as noted in the discrepancy space of the

manifest, or that the hazardous waste was rejected as noted in the manifest discrepancy space. (2/07)

(2) If a facility receives a hazardous waste shipment accompanied by a manifest, the owner, operator or his/her agent must:

(i) Sign and date, by hand, each copy of the manifest;

(ii) Note any discrepancies (as defined in 265.72(a)) on each copy of the manifest;

(iii) Immediately give the transporter at least one copy of the manifest;

(iv) Within 30 days of delivery, send a copy of the completed manifest to the generator; and

(v) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(3) If a facility receives hazardous waste imported from a foreign source, the receiving facility must mail a copy of the manifest to the following address within 30 days of delivery: International Compliance Assurance Division, OFA/OECA (2254A), U.S. Environmental Protection Agency, Ariel Rios Building, 1200 Pennsylvania Avenue, NW., Washington, DC 20460.(2/07)

(4) Within 30 days after the delivery, send a copy of the completed manifest to the generator; (6/97) and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in section 265.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

[Comment: The Department does not intend that the owner or operator of a facility whose procedures under 265.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.] (12/92)

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest or a signed and dated copy of the shipping paper (if the manifest has not been received within 30 days after delivery) to the generator; (6/97, 9/98, 2/07)

[Comment: Section 262.23(c) requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).] (12/92)

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of part 262.

[Comment: The provisions of 262.34 are applicable to the onsite accumulation of hazardous wastes by generators. Therefore, the provisions of section 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility. (12/92)]

(d) Within three working days of the receipt of a shipment subject to part 262, subpart H, the owner or operator of facility must provide a copy of the tracking document bearing all required signatures to the notifier, to the Office of Enforcement and Compliance Assurance, Office of Compliance, Enforcement Planning, Targeting and Data Division (2222A), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460, and to competent authorities of all other concerned countries. The original copy of the tracking document must be maintained at the facility for at least three years from the date of signature. (9/98)

(e) A facility must determine whether the consignment state for a shipment regulates any additional wastes (beyond those regulated Federally) as hazardous wastes under its state hazardous waste program. Facilities must also determine whether the consignment state or generator state requires the facility to submit any copies of the manifest to these states.(2/07)

265.72 Manifest discrepancies

(a) Manifest discrepancies are:

(1) Significant differences (as defined by paragraph *(b)* of this section) between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity and type of hazardous waste a facility actually receives;

(2) Rejected wastes, which may be a full or partial shipment of hazardous waste that the TSDF cannot accept; or

(3) Container residues, which are residues that exceed the quantity limits for "empty" containers set forth in 261.7(b).(2/07)

(b) Significant differences in quantity are: For bulk waste, variations greater than 10 percent in weight; for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant differences in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping

paper. (2/07)

(c) Upon discovering a significant difference in quantity or type, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (*e.g.*, with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Regional Administrator a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(*d*)(1) Upon rejecting waste or identifying a container residue that exceeds the quantity limits for "empty" containers set forth in 261.7(b), the facility must consult with the generator prior to forwarding the waste to another facility that can manage the waste. If it is impossible to locate an alternative facility that can receive the waste, the facility may return the rejected waste or residue to the generator. The facility must send the waste to the alternative facility or to the generator within 60 days of the rejection or the container residue identification.

(2) While the facility is making arrangements for forwarding rejected wastes or residues to another facility under this section, it must ensure that either the delivering transporter retains custody of the waste, or the facility must provide for secure, temporary custody of the waste, pending delivery of the waste to the first transporter designated on the manifest prepared under paragraph (e) or (f) of this section.

(e) Except as provided in paragraph (e)(7) of this section, for full or partial load rejections and residues that are to be sent off-site to an alternate facility, the facility is required to prepare a new manifest in accordance with 262.20(a) of this chapter and the following instructions:

(1) Write the generator's U.S. EPA ID number in Item 1 of the new manifest. Write the generator's name and mailing address in Item 5 of the new manifest. If the mailing address is different from the generator's site address, then write the generator's site address in the designated space in Item 5.

(2) Write the name of the alternate designated facility and the facility's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment.

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a).

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as the offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation and mail a signed copy of the manifest to the generator identified in Item 5 of the new manifest.

(7) For full load rejections that are made while the transporter remains present at the facility, the facility may forward the rejected shipment to the alternate facility by completing Item 18b of the original manifest and supplying the information on the next destination facility in the Alternate Facility space. The facility must retain a copy of this manifest for its records, and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new manifest and comply with paragraphs (e)(1), (2), (3), (4), (5), and (6) of this section.

(f) Except as provided in paragraph (f)(7) of this section, for rejected wastes and residues that must be sent back to the generator, the facility is required to prepare a new manifest in accordance with 262.20(a) of this chapter and the following instructions:

(1) Write the facility's U.S. EPA ID number in Item 1 of the new manifest. Write the facility’s name and mailing address in Item 5 of the new manifest. If the mailing address is different from the facility’s site address, then write the facility’s site address in the designated space for Item 5 of the new manifest.

(2) Write the name of the initial generator and the generator's U.S. EPA ID number in the designated facility block (Item 8) of the new manifest.

(3) Copy the manifest tracking number found in Item 4 of the old manifest to the Special Handling and Additional Information Block of the new manifest, and indicate that the shipment is a residue or rejected waste from the previous shipment,

(4) Copy the manifest tracking number found in Item 4 of the new manifest to the manifest reference number line in the Discrepancy Block of the old manifest (Item 18a),

(5) Write the DOT description for the rejected load or the residue in Item 9 (U.S. DOT Description) of the new manifest and write the container types, quantity, and volume(s) of waste.

(6) Sign the Generator's/Offeror's Certification to certify, as offeror of the shipment, that the waste has been properly packaged, marked and labeled and is in proper condition for transportation,

(7) For full load rejections that are made while the transporter remains at the facility, the facility may return the shipment to the generator with the original manifest by completing Item 18b of the manifest and supplying the generator's information in the Alternate Facility space. The facility must retain a copy for its records and then give the remaining copies of the manifest to the transporter to accompany the shipment. If the original manifest is not used, then the facility must use a new

manifest and comply with paragraphs (f)(1), (2), (3), (4), (5), (6) and (8) of this section.

(8) For full or partial load rejections and container residues contained in non-empty containers that are returned to the generator, the facility must also comply with the exception reporting requirements in 262.42(a).

*(g)*If a facility rejects a waste or identifies a container residue that exceeds the quantity limits for "empty" containers set forth in 261.7(b) after it has signed, dated, and returned a copy of the manifest to the delivering transporter or to the generator, the facility must amend its copy of the manifest to indicate the rejected wastes or residues in the discrepancy space of the amended manifest. The facility must also copy the manifest tracking number from Item 4 of the new manifest to the discrepancy space of the amended manifest, and must re-sign and date the manifest to certify to the information as amended. The facility must retain the amended manifest for at least three years from the date of amendment, and must within 30 days, send a copy of the amended manifest to the transporter and generator that received copies prior to their being amended. (2/07)

265.73 Operating record

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record for three years unless noted below:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I to part 265. This information must be maintained in the operating record until closure of the facility; (6/08)

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross references to manifest document numbers if the waste was accompanied by a manifest. This information must be maintained in the operating record until closure of the facility; (12/93, 6/08)

[Comment: See 265.119, 265.279, and 265.309 for related requirements.] (12/92)

(3) Records and results of waste analysis, waste determinations, and trial tests performed as specified in 265.13, 265.200, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034, 265.1063, 265.1084, 268.4(a), and 268.7 (11/90, 12/92, 9/98).

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in section 265.56(j) (12/92);

(5) Records and results of inspections as required by section 265.15(d) (except these data need be kept only three years) (12/92);

(6) Monitoring, testing or analytical data, and corrective action where required by subpart F of this part and by 265.19, 265.94, 265.191, 265.193, 265.195, 265.224, 265.226, 265.255, 265.260, 265.276, 265.278, 265.280(d)(1), 265.302 , 265.304, 265.347, 265.377, 265.1034(c) through 265.1034(f), 265.1035, 265.1063(d) through 265. 265.1063(i), 265.1064, and 265.1083 through 265.1090. Maintain in the operating record for three years, except for records and results pertaining to groundwater monitoring and cleanup, and response action plans for surface impoundments, waste piles, and landfills, which must be maintained in the operating record until closure of the facility. (6/08)

[Comment: As required by 265.94, monitoring data at disposal facilities must be kept throughout the postclosure period.] (12/92,11/99)

(7) All closure cost estimates under 265.142 and, for disposal facilities, all postclosure cost estimates under 265.144 must be maintained in the operating record until closure of the facility.

(8) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to 268.5, monitoring data required pursuant to a petition under 268.6, or a certification under 268.8, and the applicable notice required by a generator under 268.7(a). All of this information must be maintained in the operating record until closure of the facility. (11/90, 6/08)

(9) For an offsite treatment facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8; (11/90)

(10) For an onsite treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8; (11/90)

(11) For an offsite land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under 268.7 or 268.8; (11/90)

(12) For an onsite land disposal facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under 268.7 or 268.8. (11/90)

(13) For an offsite storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under 268.7 or 268.8; and (11/90, 12/92)

(14) For an onsite storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or

operator of a treatment facility under 268.7 or 268.8. (11/90)

(15) Monitoring, testing or analytical data, and corrective action where required by 265.90, 265.93(d)(2), and 265.93(d)(5), and the certification as required by 265.196(f) must be maintained in the operating record until closure of the facility. (6/08)

265.74 Availability, retention, and disposition of records

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of the Department.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Department.

(c) A copy of records of waste disposal locations and quantities under section 265.73(b)(2) must be submitted to the Department and local land authority upon closure of the facility (see 265.119).

265.75 Quarterly report

(a) Each owner or operator of a hazardous waste facility shall, no later than thirty (30) days after the end of each calendar quarter, submit a written report to the Department including, but not limited to, the following information:

(1) The types and quantities of hazardous waste generated giving the EPA hazardous waste number (from R.61-79.261 Subparts C or D) and the DOT hazardous class;

(2) The types and quantities of hazardous waste received at the facility during the reporting period;

(3) The types and quantities of hazardous wastes treated, stored, disposed of, and otherwise handled during the reporting period;

(4) The EPA identification number, name, and address of the facility;

(5) The calendar quarter covered by the report;

(6) For offsite facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(7) A description and the quantity of each hazardous waste the facility received during the year. For offsite facilities, this information must be listed by EPA identification number of each generator;

(8) The most recent closure cost estimate under section 265.142, and, for disposal facilities, the most recent postclosure cost estimate under section 265.144; and (moved 12/93)

(9) Certification from any out-of-state generator who shipped waste to the facility during the reporting period that he has a program in place to reduce the volume or quantity and toxicity of such waste to the degree determined to be economically practicable and that the proposed method of handling the waste is that practicable method currently available which minimizes the present and future threat to human health and the environment; (moved 12/93)

(10) The method of treatment, storage, or disposal for each hazardous waste; (moved 12/93)

(11) Monitoring data under sections 265.94(a)(2)(ii) and (iii), and (b)(2), where required;

(12) The certification signed by the owner or operator of the facility or his authorized representative. (12/93)

(b) Each owner or operator shall submit the information required by paragraph (a) above on a form designated by the Department and according to the instructions included with such form.

(c) Each owner or operator shall retain a copy of the report required in paragraphs (a) and (b) above for a period of three (3) years.

265.76 Unmanifested waste report

(a) If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described by 263.20(e), and if the waste is not excluded from the manifest requirement by this chapter, then the owner or operator must prepare and submit a letter to the Regional Administrator within fifteen days after receiving the waste. The unmanifested waste report must contain the following information:

(1) The EPA identification number, name and address of the facility;

(2) The date the facility received the waste;

(3) The EPA identification number, name and address of the generator and the transporter, if available;

(4) A description and the quantity of each unmanifested hazardous waste the facility received;

(5) The method of treatment, storage, or disposal for each hazardous waste;

(6) The certification signed by the owner or operator of the facility or his authorized representative; and

(7) A brief explanation of why the waste was unmanifested, if known.(2/07)

(*b*)[Reserved 12/92]

[Comment: Conditionally exempt small quantities of hazardous waste are excluded from this regulation and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency requires that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency requires that the owner or operator file an unmanifested waste report for the hazardous waste movement. (12/92, 2/07)]

265.77 Additional reports

In addition to quarterly and unmanifested waste

reports described in 265.75 and 265.76, the Department may require, as deemed necessary, the owners and operators of facilities to furnish additional reports concerning their hazardous waste activities including the following: (11/90; 12/93)

(a) Releases, fires, and explosions as specified in section 265.56(j);

(b) Groundwater contamination and monitoring data as specified in sections 265.93 and 265.94; and

(c) Facility closure as specified in section 265.115.

(d) As otherwise required by subparts AA, BB and CC. (9/98)

(e) With the fourth quarter report, generators who treat, store, or dispose of hazardous waste onsite, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated. (moved 12/93)

(f) With the fourth quarter report, generators who treat, store, or dispose of hazardous waste onsite, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.

265.78 Hazardous waste contingency fund fees

A check made payable to the Department for payment of the following fees [see 44-56-60]: (11/90; 12/92; 12/93)

(a) A fee of $34.00 per ton of hazardous waste landfilled or other means of land disposal and $10.00 per ton of hazardous waste incinerated, and $13.70 per ton of other wastes generated by the facility and disposed of in this State at a hazardous waste facility, except that the per ton fee for hazardous wastes received shall be no less than the fee imposed by the state from which the wastes originated [see 44-56-170 and -510]; (12/93)

(b) A fee of $1.00 per ton of hazardous wastes in excess of fifty (50) tons remaining in storage at the end of the reporting period; and (12/93)

(c) Fees imposed by this subsection must be collected by the facility at which the waste is incinerated and remitted to the State Treasurer to be credited to the general fund of the State. For purposes of 264.78(a) 'incineration' includes hazardous waste incinerators, boilers, and industrial furnaces." (12/93)

Subpart F - GROUNDWATER MONITORING

265.90 Applicability

(a) Within one year after the effective date of these regulations, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a groundwater monitoring program capable of determining the facility's impact on the quality of groundwater in the uppermost aquifer underlying the facility, except as section 265.1 and paragraph (c) of this section provide otherwise (12/92).

(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a groundwater monitoring system which meets the requirements of section 265.91, and must comply with sections 265.92 through 265.94. This groundwater monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the postclosure care period as well.

(c) All or part of the groundwater monitoring requirements of this subpart may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following: (11/90)

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to groundwater); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of groundwater flow); and

(ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that groundwater monitoring of indicator parameters in accordance with sections 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under section 265.93(b), he may install, operate, and maintain an alternate groundwater monitoring system (other than the one described in section 265.91 and 265.92). If the owner or operator decides to use an alternate groundwater monitoring system he must:

(1) Within one year after the effective date of these regulations, develop a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of 265.93(d)(3), for an alternate groundwater monitoring system. This plan is to be placed in the facility's operating record and maintained until closure of the facility. (12/92, 6/08);

(2) Not later than one year after the effective date of these regulations, initiate the determinations specified in 265.93(d)(4) (12/92);

(3) Prepare a report in accordance with 265.93(d)(5) and place it in the facility's operating

record and maintain until closure of the facility.

(4) Continue to make the determinations specified in 265.93(d)(4), on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in 265.94(b).

(e) The groundwater monitoring requirements of this subpart may be waived with respect to any surface impoundment that (1) Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under part 261.22 or are listed as hazardous wastes in subpart D of part 261 only for this reason, and (2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration must be in writing and must be certified by a qualified professional.

(f) The Department may replace all or part of the requirements of this subpart applying to a regulated unit (as defined in 264.90), with alternative requirements developed for groundwater monitoring set out in an approved closure or postclosure plan, where the Department determines that: (8/00)

(1) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release; and (8/00)

(2) It is not necessary to apply the requirements of this subpart because the alternative requirements will protect human health and the environment. The alternative standards for the regulated unit must meet the requirements of 264.101(a). (8/00)

265.91 Groundwater monitoring system

(a) A groundwater monitoring system must be capable of yielding groundwater samples for analysis and must consist of:

(1) Monitoring wells (at least one) installed hydraulically upgradient (i.e., in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield groundwater samples that are:

(i) Representative of background groundwater quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells (at least three) installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(3) The facility owner or operator may demonstrate that an alternate hydraulically downgradient monitoring well location will meet the criteria outlined below. The demonstration must be in writing and kept at the facility. The demonstration must be certified by a qualified geologist or geotechnical engineer and establish that: (12/93)

(i) An existing physical obstacle prevents monitoring well installation at the hydraulically downgradient limit of the waste management area; and

(ii) The selected alternate downgradient location is as close to the limit of the waste management area as practical; and

(iii) The location ensures detection that, given the alternate location, is as early as possible of any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(iv) Lateral expansion, new, or replacement units are not eligible for an alternate downgradient location under this paragraph.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand, where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the groundwater. All monitoring wells will have a locking cap or other security devices to prevent damage and/or vandalism. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well identification number, date of construction, total well depth, static water level, and driller name and state certification number. (12/92; 6/95)

(d) If not otherwise proposed as part of a plan submitted for approval by the Department, the general design, construction, and location of monitoring wells

will be submitted to the Department for approval prior to installation. [Note: See for guidance EPA's RCRA Ground-Water Monitoring Technical Enforcement Guidance Document, TEGD.] (6/95)

265.92 Sampling and analysis

(a) The owner or operator must obtain and analyze samples from the installed groundwater monitoring system. The owner or operator must develop and follow a groundwater sampling and analysis plan. The plan must be kept at the facility and must include procedures and techniques for: (12/93)

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

[Comment: See Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities, EPA-530/SW-611, August 1977 and Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.] (12/93)

(b) The owner or operator must determine the concentration or value of the following parameters in groundwater samples in accordance with paragraphs (c) and (d) of this section:

(1) Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in Appendix III.

(2) Parameters establishing groundwater quality:

(i) Chloride

(ii) Iron

(iii) Manganese

(iv) Phenols

(v) Sodium

(vi) Sulfate

[Comment: These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under 265.93(d).] (12/93)

(3) Parameters used as indicators of groundwater contamination:

(i) pH

(ii) Specific Conductance

(iii) Total Organic Carbon

(iv) Total Organic Halogen

(c) (1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish groundwater quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate groundwater contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(e) Elevation of the groundwater surface at each monitoring well must be determined each time a sample is obtained.

265.93 Preparation, evaluation, and response

(a) Within one year after the effective date of these regulations, the owner or operator must prepare an outline of a groundwater quality assessment program. The outline must describe a more comprehensive groundwater monitoring program (than that described in sections 265.91 and 265.92) capable of determining (12/92):

(1) Whether hazardous waste or hazardous waste constituents have entered the groundwater;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the groundwater.

(b) For each indicator parameter specified in 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see Appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c) (1) If the comparisons for the upgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with 265.94(a)(2)(ii).

(2) If the comparisons for downgradient wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional groundwater samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d) (1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide

written notice to the Department - within seven days of the date of such confirmation - that the facility may be affecting groundwater quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist or geotechnical engineer, for groundwater quality assessment at the facility. This plan must be placed in the facility operating record and be maintained until closure of the facility. (6/08)

(3) The plan to be submitted under paragraph 265.90(d)(1) or paragraph (d)(2) of this section must specify:

(i) The number, location, and depth of wells;

(ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) Evaluation procedures, including any use of previously gathered groundwater quality information; and

(iv) A schedule of implementation.

(4) The owner or operator must implement the groundwater quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine:

(i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the groundwater; and

(ii) The concentrations of the hazardous waste or hazardous waste constituents in the groundwater.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this section, as soon as technically feasible, and prepare a report containing an assessment of the groundwater quality. This report must be placed in the facility operating record and be maintained until closure of the facility. (6/08)

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he may reinstate the indicator evaluation program described in section 265.92 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Department in the report submitted under paragraph (d)(5) of this section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the groundwater, then he:

(i) Must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the groundwater quality assessment plan was implemented prior to final closure of the facility; or

(ii) May cease to make the determinations required under paragraph (d)(4) of this section, if the groundwater quality assessment plan was implemented during the postclosure care period.

(e) Notwithstanding any other provision of this Subpart, any groundwater quality assessment to satisfy the requirements of 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with 265.93(d)(5).

(f) Unless the groundwater is monitored to satisfy the requirements of 265.93(d)(4), at least annually the owner or operator must evaluate the data on groundwater surface elevations obtained under 265.92(e) to determine whether the requirements under 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that 265.91(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the groundwater monitoring system into compliance with this requirement.

265.94 Record keeping and reporting

(a) Unless the groundwater is monitored to satisfy the requirements of 265.93(d)(4) the owner or operator must:

(1) Keep records of the analyses required in section 265.92(c) and (d), the associated groundwater surface elevations required in section 265.92(e), and the evaluations required in section 265.93(b) throughout the active life of the facility, and, for disposal facilities, throughout the postclosure care period as well; and

(2) Report the following groundwater monitoring information to the Department:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in 265.92(b)(1) for each groundwater monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III.

(ii) Annually: Concentrations or values of the parameters listed in 265.92(b)(3), for each groundwater monitoring well, along with the required evaluations for these parameters under 265.93(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with 265.93(c)(1). During the active life of the facility, this information must be submitted no later than March 1 following each calendar year.

(iii) No later than March 1 following each calendar year: Results of the evaluations of groundwater surface elevations under 265.93(f), and a description of the response to that evaluation, where applicable.

(b) If the groundwater is monitored to satisfy the requirements of 265.93(d)(4) the owner or operator

must:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of paragraph 265.93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the postclosure care period as well; and

(2) Annually, until final closure of the facility, submit to the Department a report containing the results of groundwater quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration of hazardous waste or hazardous waste constituents in the groundwater during the reporting period. This information must be submitted no later than March 1 following each calendar year.

Subpart G - CLOSURE AND POSTCLOSURE

265.110 Applicability

Except as 265.1 provides otherwise: (12/93)

(a) Sections 265.111 through 265.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 265.116 through 265.120 (which concern postclosure care) apply to the owners and operators of: (11/90)

(1) All hazardous waste disposal facilities; (12/93)

(2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in 265.228 or 265.258; (11/90; 12/93)

(3) Tank systems that are required under section 265.197 to meet requirements for landfills; and (11/90; 12/93)

(4) Containment buildings that are required under 265.1102 to meet the requirement for landfills. (12/93)

(c) [Reserved] (8/00)

(d) The Department may replace all or part of the requirements of this subpart (and the unit-specific standards in 265.111(c)) applying to a regulated unit (as defined in 264.90), with alternative requirements for closure set out in an approved closure or post-closure plan, where the Department determines that: (8/00)

(1) A regulated unit is situated among solid waste management units (or areas of concern), a release has occurred, and both the regulated unit and one or more solid waste management unit(s) (or areas of concern) are likely to have contributed to the release, and

(2) It is not necessary to apply the closure requirements of this subpart (and/or those referenced herein) because the alternative requirements will protect human health and the environment, and will satisfy the closure performance standard of 265.111(a) and (b).

265.111 Closure performance standard

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance, and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, (12/92) and

(c) Complies with the closure requirements of this subpart, including, but not limited to, the requirements of sections 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, and 265.404, and 265.1102. (12/93)

265.112 Closure plan; amendment of plan

(a) Written plan. By May 19, 1981, or by six months after the effective date of the rule that first subjects a facility to provisions of this section, the owner or operator of a hazardous waste management facility must have a written closure plan. Until final closure is completed and certified in accordance with section 265.115, a copy of the most current plan must be furnished to the Department upon request, including request by mail. In addition, for facilities without approved plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee, or representative of the Department (12/92).

(b) Content of plan. The plan must identify steps necessary to perform partial and/or final closure of the facility at any point during its active life. The closure plan must include, at least:

(1) A description of how each hazardous waste management unit at the facility will be closed in accordance with section 265.111; and

(2) A description of how final closure of the facility will be conducted in accordance with section 265.111. The description must identify the maximum extent of the operation which will be unclosed during the active life of the facility; and

(3) An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial and final closure, including, but not limited to methods for removing, transporting, treating, storing or disposing of all hazardous waste, identification of and the type(s) of offsite hazardous waste management unit(s) to be used, if applicable; and (12/93)

(4) A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard (12/92); and

(5) A detailed description of other activities necessary during the partial and final closure periods to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, groundwater monitoring, leachate collection, and runon and runoff control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.); and

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under sections 265.143 or 265.145 and whose remaining operating life is less than twenty years, and for facilities without approved closure plans.

(8) For facilities where the Department has applied alternative requirements at a regulated unit under 265.90(f), and/or 265.110(d), the alternative requirements applying to the regulated unit. (8/00)

(c) Amendment of plan. The owner or operator may amend the closure plan at any time prior to the notification of partial or final closure of the facility. An owner or operator with an approved closure plan must submit a written request to the Department to authorize a change to the approved closure plan. The written request must include a copy of the closure plan for approval by the Department.

(1) The owner or operator must amend the closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(iv) The owner or operator requests the Department to apply alternative requirements to a regulated unit under 265.90(f), and/or 265.110(d). (8/00)

(2) The owner or operator must amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must amend the closure plan no later than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure, but are required to close as landfills in accordance with section 265.310.

(3) An owner or operator with an approved closure plan must submit the modified plan to the Department at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator must submit the modified plan no more than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with section 265.310. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in R.61-79.270.42, the modification to the plan will be approved according to the procedures in section 265.112(d)(4). (6/97)

(4) The Department may request modifications to the plan under the conditions described in paragraph (c)(1) of this section. An owner or operator with an approved closure plan must submit the modified plan within 60 days of the request from the Department, or within 30 days if the unexpected event occurs during partial or final closure. If the amendment is considered a Class 2 or 3 modification according to the criteria in R.61-79.270.42, the modification to the plan will be approved in accordance with the procedures in section 265.112(d)(4). (11/90, 6/97)

(d) Notification of partial closure and final closure.

(1) The owner or operator must submit the closure plan to the Department at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator must submit the closure plan to the Department at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. The owner or operator must submit the closure plan to the Department at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. Owners or operators with approved closure plans must notify the Department in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners or operators with approved closure plans must notify the Department in writing at least 45 days prior to the date on which he expects to begin partial or final closure of a boiler or industrial furnace. Owners or operator with approved closure plans must notify the Department in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units (12/92).

(2) The date when he "expects to begin closure" must be either: (12/92)

(i) Within 30 days after the date on which any

hazardous waste management unit receives the known final volume of hazardous wastes, or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the Department that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all interim status requirements, the Department may approve an extension to this one-year limit (11/90) (12/92; 12/93); or

(ii) For units meeting the requirements of 265.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of nonhazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional nonhazardous wastes, no later than one year after the date on which the unit received the most recent volume of nonhazardous wastes. If the owner or operator can demonstrate to the Department that the hazardous waste management unit has the capacity to receive additional nonhazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the Department may approve an extension to this one-year limit. (11/90; 12/93)

(3) The owner or operator must submit his closure plan to the Department no later than 15 days after:

(i) Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

(ii) Issuance of a judicial decree or final order to cease receiving hazardous wastes or close.

(4) The Department will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. The Department will also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Department will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Department will approve, modify, or disapprove the plan within 90 days of its receipt. If the Department does not approve the plan it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Department will approve or modify this plan in writing within 60 days. If the Department modifies the plan, this modified plan becomes the approved closure plan. The Department must assure that the approved plan is consistent with sections 265.111 through 265.115 and the applicable requirements of subpart F of this part, and sections 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator. (12/93)

(e) Removal of wastes and decontamination or dismantling of equipment. Nothing in this section shall preclude the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

265.113 Closure; time allowed for closure

(a) Within 90 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at a hazardous waste management unit or facility, or within 90 days after approval of the closure plan, whichever is later, the owner or operator must treat, remove from the unit or facility, or dispose of onsite, all hazardous wastes in accordance with the approved closure plan. The Department may approve a longer period if the owner or operator (11/90) demonstrates that: (12/92; 12/93)

(1) (i) The activities required to comply with this paragraph will, of necessity, take longer than 90 days to complete; or

(ii) (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and (11/90)

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements. (12/92)

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies

with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The Department may approve an extension to the closure period if the owner or operator demonstrates that: (11/90; 12/92; 12/93)

(1) (i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii) (A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive nonhazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and (11/90, 12/92)

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable interim status requirements. (12/92; 12/93)

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows: (11/90)

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section. (11/90)

(d) The Department may allow an owner or operator to receive nonhazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if: (11/90)

(1) The owner or operator submits an amended part B application, or a part B application, if not previously required, and demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive nonhazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive nonhazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The nonhazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(2) The part B application includes an amended waste analysis plan, groundwater monitoring and response program, human exposure assessment required under 44-56-10 *et seq.* and 48-1-50 *et seq.* and RCRA section 3019, and closure and postclosure plans, and updated cost estimates and demonstrations of financial assurance for closure and postclosure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the nonhazardous wastes, and changes in closure activities, including the expected year of closure if applicable under 265.112(b)(7), as a result of the receipt of nonhazardous wastes following the final receipt of hazardous wastes; and (12/92)

(3) The part B application is amended, as necessary and appropriate, to account for the receipt of nonhazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The part B application and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Department no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 44-56-30 and 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j)(2), (3), (4) or (13) must: (11/90; 12/92; 12/93; 12/94)

(1) Submit with the part B application:

(i) A contingent corrective measures plan; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Department may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) in hazardous constituents over background levels is detected in accordance with the requirements in subpart F of this part, the owner or operator of the unit:

(i) Must implement corrective measures in

accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Department to implement corrective measures in less than one year or to cease receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide annual reports to the Department describing the progress of the corrective action program, compile all groundwater monitoring data, and evaluate the effect of the continued receipt of nonhazardous wastes on the effectiveness of the corrective action. (6/08)

(6) The Department may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this section, or fails to make substantial progress in implementing corrective action and achieving the facility's background levels.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Department determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Department receives no written comments, the decision will become final five days after the close of the comment period. The Department will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Department receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Department determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Department under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

265.114 Disposal or decontamination of equipment, structures and soils

During the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated unless specified otherwise in sections 265.197, 265.228, 265.258, 265.280, or 265.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of 262. (11/90; 12/93)

265.115 Certification of closure

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Department upon request until he releases the owner or operator from the financial assurance requirements for closure under 265.143(h). (6/08)

265.116 Survey plat

No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable subpart G regulations. (12/93)

265.117 Postclosure care and use of property

(a) (1) Postclosure care for each hazardous waste management unit subject to the requirements of sections 265.117 through 265.120 must begin after completion of closure of the unit and continue for 30 years after that

date. It must consist of at least the following: (12/93)

(i) Monitoring and reporting in accordance with the requirements of subparts F, K, L, M, and N of this part; and (12/93)

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of subparts F, K, L, M, and N of this part (12/92; 12/93).

(2) Any time preceding closure of a hazardous waste management unit subject to postclosure care requirements or final closure, or any time during the postclosure period for a particular hazardous waste disposal unit, the Department may: (12/92)

(i) Shorten the postclosure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if it finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or groundwater monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the postclosure care period applicable to the hazardous waste management unit or facility, if it finds that the extended period is necessary to protect human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment). (11/90)

(b) The Department may require, at partial and final closure, continuation of any of the security requirements of section 265.14 during part or all of the postclosure period when: (11/90)

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Postclosure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Department finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All postclosure care activities must be in accordance with the provisions of the approved postclosure plan as specified in section 265.118.

265.118 Postclosure plan; amendment of plan

(a) Written plan. By May 19, 1981, the owner or operator of a hazardous waste disposal unit must have a written postclosure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous wastes at closure must prepare a postclosure plan and submit it to the Department within 90 days of the date that the owner or operator or the Department determines that the hazardous waste management unit or facility must be closed as a landfill, subject to the requirements of sections 265.117 through 265.120.

(b) Until final closure of the facility, a copy of the most current postclosure plan must be furnished to the Department upon request, including request by mail. In addition, for facilities without approved postclosure plans, it must also be provided during site inspections, on the day of inspection, to any officer, employee or representative of the Department. After final closure has been certified, the person or office specified in section 265.118(c)(3) must keep the approved postclosure plan during the postclosure period.

(c) For each hazardous waste management unit subject to the requirements of this section, the postclosure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with subparts F, K, L, M, and N during the postclosure care period; and (12/93)

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of subparts K, L, M, and N and (12/93)

(ii) The function of the monitoring equipment in accordance with the requirements of subparts F, K, L, M, and N; and (12/93)

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the postclosure care period.

(4) [Reserved (8/00)

(5) For facilities where the Department has applied alternative requirements at a regulated unit under 265.90(f), and/or 265.110(d), the alternative requirements that apply to the regulated unit. (8/00)

(d) Amendment of plan. The owner or operator may amend the postclosure plan any time during the active life of the facility or during the postclosure care period. An owner or operator with an approved postclosure plan must submit a written request to the Department to authorize a change to the approved plan. The written request must include a copy of the amended postclosure plan for approval by the Department.

(1) The owner or operator must amend the postclosure plan whenever:

(i) Changes in operating plans or facility design affect the postclosure plan, or

(ii) Events which occur during the active life of the facility, including partial and final closures, affect the postclosure plan.

(iii) The owner or operator requests the Department to apply alternative requirements to a regulated unit under 265.90(f), and/or 265.110(d). (8/00)

(2) The owner or operator must amend the postclosure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the postclosure plan.

(3) An owner or operator with an approved postclosure plan must submit the modified plan to the Department at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the postclosure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with sections 265.228(b) or 265.258(a) is required to close as a landfill in accordance with section 265.310, the owner or operator must submit a postclosure plan within 90 days of the determination by the owner or operator or Department that the unit must be closed as a landfill. If the amendment to the postclosure plan is a Class 2 or 3 modification according to the criteria in section 270.42, the modification to the plan will be approved according to the procedures in section 265.118(f). (6/97)

(4) The Department may request modifications to the plan under the conditions described in paragraph (d)(1) of this section. An owner or operator with an approved postclosure plan must submit the modified plan no later than 60 days of the request from the Department. If the amendment to the postclosure plan is considered a Class 2 or 3 modification according to the criteria in R.61-79.270.42, the modifications to the postclosure plan will be approved in accordance with the procedures in section 265.118(f). If the Department determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure must close the facility as a landfill, the owner or operator must submit a postclosure plan for approval to the Department within 90 days of the determination. (11/90, 6/97)

(e) The owner or operator of a facility with hazardous waste management units subject to these requirements must submit his postclosure plan to the Department at least 180 days before the date he expects to begin partial or final closure of the first hazardous waste disposal unit. The date he "expects to begin closure" of the first hazardous waste disposal unit must be either within 30 days after the date on which the hazardous waste management unit receives the known final volume of hazardous waste or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. The owner or operator must submit the postclosure plan to the Department no later than 15 days after:

(1) Termination of interim status (except when a permit is issued to the facility simultaneously with termination of interim status); or

(2) Issuance of a judicial decree or final orders under 3008 of RCRA to cease receiving wastes or close.(9/01)

(f) The Department will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the postclosure plan and request modifications to the plan no later than 30 days from the date of the notice. The Department will also, in response to a request or at its own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a postclosure plan. The Department will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.) The Department will approve, modify, or disapprove the plan within 90 days of its receipt. If the Department does not approve the plan it shall provide the owner or operator with a detailed written statement of reasons for the refusal and the owner or operator must modify the plan or submit a new plan for approval within 30 days after receiving such written statement. The Department will approve or modify this plan in writing within 60 days. If the Department modifies the plan, this modified plan becomes the approved postclosure plan. The Department must ensure that the approved postclosure plan is consistent with sections 265.117 through 265.120. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(g) The postclosure plan and length of the postclosure care period may be modified any time prior to the end of the postclosure care period in either of the following two ways:

(1) The owner or operator or any member of the public may petition the Department to extend or reduce the postclosure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the postclosure care period based on cause.

(i) The petition must include evidence demonstrating that:

(A) The secure nature of the hazardous waste management unit or facility makes the postclosure care requirement(s) unnecessary or supports reduction of the postclosure care period specified in the current postclosure plan (e.g., leachate or groundwater monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure), or (11/90)

(B) The requested extension in the postclosure care period or alteration of postclosure care requirements is necessary to prevent threats to human health and the environment (e.g., leachate or groundwater monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(ii) These petitions will be considered by the Department only when they present new and relevant information not previously considered by the Department. Whenever the Department is considering a petition, it will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. The Department will also, in response to a request or at its own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the postclosure plan. The Department will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) After considering the comments, the Department will issue a final determination, based upon the criteria set forth in paragraph (g)(1) of this section. (12/93)

(iii) If the Department denies the petition, it will send the petitioner a brief written response giving a reason for the denial.

(2) The Department may tentatively decide to modify the postclosure plan if it deems it necessary to prevent threats to human health and the environment. The Department may propose to extend or reduce the postclosure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the postclosure care period based on cause.

(i) The Department will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in paragraph (g)(1)(ii) of this section. After considering the comments, it will issue a final determination. (12/93)

(ii) The Department will base its final determination upon the same criteria as required for petitions under paragraph (g)(1)(i) of this section. A modification of the postclosure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more postclosure care requirements. At the end of the specified period of suspension, the Department would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment. (12/93)

(h) The postclosure plan for each unit of a facility managing hazardous waste must include an estimate with justifying documentation of how long the facility shall be expected to meet the desired minimum technology requirements after closure. (11/90)

265.119 Postclosure notices

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Department a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property - or on some other instrument which is normally examined during title search - that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under part 265, subpart G regulations; and (12/93)

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by sections 265.116 and 265.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Department; and

(2) Submit a certification signed by the owner or operator that he has recorded the notation specified in paragraph (b)(1) of this section and a copy of the document in which the notation has been placed, to the Department.

(c) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he must request a modification to the approved postclosure plan in accordance with the requirements of section 265.118(g). The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of 265.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements. If the owner or operator is granted approval to conduct the removal activities, the owner or operator may request that the Department approve either: (11/90; 12/92; 12/93)

(1) The removal of the notation on the deed to the facility property or other instrument normally examined

during title search, or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

265.120 Certification of completion of postclosure care

No later than 60 days after the completion of the established postclosure care period for each hazardous waste disposal unit, the owner or operator must submit to the Department, by registered mail, a certification that the postclosure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved postclosure plan. The certification must be signed by the owner or operator and a qualified Professional Engineer. Documentation supporting the Professional Engineer's certification must be furnished to the Department upon request until he releases the owner or operator from the financial assurance requirements for postclosure care under 265.145(h). (6/89, 6/08)

Subpart H - FINANCIAL REQUIREMENTS

265.140 Applicability

(a) The requirements of sections 265.142, 265.143 and 265.147 through 265.150 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this section or in section 265.1.

(b) The requirements of sections 265.144 and 265.145 apply only to owners and operators of: (12/93)

(1) Disposal facilities;

(2) Tank systems that are required under section 265.197 to meet the requirements for landfills; and (12/93)

(3) Containment buildings that are required under 265.1102 to meet the requirements for landfills. (12/93)

(c) State and the Federal government are exempt from the requirements of this subpart. (moved from (c) 6/95, and moved back 6/04)

265.141 Definitions of terms as used in this subpart

(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of section 265.112.

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with section 265.142 (a), (b), and (c).

(c) "Current postclosure cost estimate" means the most recent of the estimates prepared in accordance with section 265.144 (a), (b), and (c).

(d) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of sections 265.117 through 265.120. (12/93)

(f) The following terms are used in the specifications for the financial tests for closure, postclosure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 44-56-10 *et seq.* 144.62(a), (b), and (c) of this title. (12/92; 12/93)

"Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties

brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

(h) "Substantial business relationship" means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the Department. (11/90)

265.142 Cost estimate for closure

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in sections 265.111 through 265.115 and applicable closure requirements in sections 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381, 265.404, and 265.1102. (12/93)

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan. [See section 265.112(b)]; and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in section 265.141(d).) The owner or operator may use costs for onsite disposal if he can demonstrate that onsite disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or nonhazardous wastes if applicable under 265.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure. (11/90; 12/93)

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or nonhazardous wastes if applicable under section 265.113(d), that might have economic value. (11/90)

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with section 265.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Department as specified in section 265.143(e)(3). The adjustment may be made by recalculating the closure cost estimate in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. (12/92; 12/93)

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after a revision has been made to the closure plan which increases the cost of closure. If the owner or operator has an approved closure plan, the closure cost estimate must be revised no later than 30 days after the Department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in section 265.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with section 265.142 (a) and (c) and, when this estimate has been adjusted in accordance with section 265.142(b), the latest adjusted closure cost estimate.

265.143 Financial assurance for closure

By the effective date of these regulations, an owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (e). (5/93; 12/93)

(a) Standby trust fund. (5/93)

(1) An owner or operator may satisfy the requirements of this section by establishing a standby trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Department. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in R.61-79.264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgement [for example, see R.61-79.264.151(b)]. Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement. (12/93)

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the Department will instruct the trustee to make reimbursements in those amounts as the Department specifies in writing, if the Department determines that the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, it may withhold reimbursements of such amounts as it deems prudent until it determines, in accordance with 265.143(h) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Department does not instruct the trustee to make such reimbursements it will provide to the owner or operator a detailed written statement of reasons. (11/90)

(11) The Department will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.143(h).

(b) Surety bond guaranteeing payment into a closure trust fund.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Department. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in section 264.151(b). (12/92, 9/01)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in section 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in section 265.143(a);

(B) Updating of Schedule A of the trust agreement (see section 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Department becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or (11/90)

(iii) Provide alternate financial assurance as specified in this section, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in section 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Department has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Closure letter of credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in section 264.151(d). (12/92; 5/96)

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements of the trust fund specified in section 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in section 265.143(a);

(B) Updating of Schedule A of the trust agreement (see R.61-79.264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Department have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in section 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(8) Following a final administrative determination pursuant to 44-56-140 or section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the Department may draw on the letter of credit. (12/92; 12/93)

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner

or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Department. (12/93)

(10) The Department will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.143(h).

(d) Closure insurance.

(1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Department. By the effective date of these regulations the owner or operator must submit to the Department a letter from an insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Department or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer in South Carolina. (11/90)

(2) The wording of the certificate of insurance must be identical to the wording specified in 264.151(e). (12/92; 5/96)

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in 265.143(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Department. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Department will instruct the insurer to make reimbursements in such amounts as the Department specifies in writing if the Department determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, it may withhold reimbursement of such amounts as it deems prudent until it determines, in accordance with 265.143(h), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the Department does not instruct the insurer to make such reimbursements, it will provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in paragraph (d)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Department deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Department or a State court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Department or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Department.

(10) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.143(h).

(e) Financial test and corporate guarantee for closure.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (e)(1)(i) or (ii) of this section: (12/93)

(i) The owner or operator must have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates. (11/90)

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and (12/93)

(B) Tangible net worth at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer (R.61-79.264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer 44-55-10 *et seq.* (12/92)

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in R.61-79.264.151(f); and (12/92; 5/96)

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Department and to each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must: (11/90)

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and current closure and postclosure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or

operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Department of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.143(h).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (e)(8) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in 264.151(h). A certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the guarantee must provide that: (12/93)

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements under these regulations whenever required to do so, the guarantor will do so or establish a trust fund as specified in section 265.143(a) in the name of the owner or operator. (12/92)

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator. (12/93)

(f) Use of multiple financial mechanisms. An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (b) through (c), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. A single standby trust fund may be established for two or more mechanisms. The Department may use

any or all of the mechanisms to provide for closure of the facility. (5/93, 9/01)

(g) Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one State, evidence of financial assurance must be submitted to the Department clarifying how the coverage applies to each of the facilities and identical evidence of financial assurance must be submitted to and maintained with the Department and Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism. (12/92, 9/01)

(h)Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Department will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Department has reason to believe that final closure has not been in accordance with the approved closure plan. The Department shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.
(11/90, 12/92, 6/08)

265.144 Cost estimate for postclosure care

(a) The owner or operator of a hazardous waste disposal unit must have a detailed written estimate, in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure regulations in sections 265.117 through 265.120, 265.228, 265.258, 265.280, and 265.310.

(1) The postclosure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent nor subsidiary of the owner or operator. (See definition of parent corporation in section 265.141(d).)

(2) The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under section 265.117.

(b) During the active life of the facility and during the postclosure period of the facility, the owner or operator must adjust the postclosure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with section 265.145. For owners or operators using the financial test or corporate guarantee, the postclosure care cost estimate must be updated for inflation no later than 30 days after the close of the firm's fiscal year and before submission of updated information to the Department as specified in section 265.145(d)(5). The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its Survey of Current Business as specified in section 265.145 (b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year. (5/93; 12/93)

(1) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

(c) During the active life of the facility and during the postclosure period of the facility, the owner or operator must revise the postclosure cost estimate no later than 30 days after a revision to the postclosure plan which increases the cost of postclosure care. If the owner or operator has an approved postclosure plan, the postclosure cost estimate must be revised no later than 30 days after the Department has approved the request to modify the plan, if the change in the postclosure plan increases the cost of postclosure care. The revised postclosure cost estimate must be adjusted for inflation as specified in section 265.144(b). (5/93)

(d) (12/92 & 5/93)

(1) The owner or operator must keep the following at the facility during the active life of the facility: the latest postclosure cost estimate prepared in accordance with section 265.144 (a) and (c) and, when this estimate has been adjusted in accordance with section 265.144(b), the latest adjusted postclosure cost estimate.

(2) During the postclosure period of the facility, the owner or operator must maintain the information specified in (d)(1) and provide it to the Department upon request.

265.145 Financial assurance for postclosure care

By the effective date of these Regulations, an owner or operator of a facility with a hazardous waste disposal unit must establish financial assurance for postclosure care of the disposal unit(s). (11/90, 5/93; 12/93)

(a) Standby trust fund. (5/93)

(1) An owner or operator may satisfy the requirements of this section by establishing a standby trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Department. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in section 264.151(a), and the trust agreement must be accompanied by a formal certification of acknowledgement (for example, see section 264.151(b). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current postclosure cost estimate covered by the agreement.

(3) [Reserved]

(4) [Reserved]

(5) [Reserved]

(6) Whenever the current postclosure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current postclosure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current postclosure cost estimate, the owner or operator may submit a written request to the Department for release of the amount in excess of the current postclosure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Department for release of the amount in excess of the current postclosure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a)(7) or (8) of this section, the Department will instruct the trustee to release to the owner or operator such funds as the Department specifies in writing.

(10) During the period of postclosure care, the Department may approve a release of funds if the owner or operator demonstrates to the Department that the value of the trust fund exceeds the remaining cost of postclosure care.

(11) An owner or operator or any other person authorized to conduct postclosure care may request reimbursements for postclosure expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for postclosure care activities, the Department will instruct the trustee to make reimbursements in those amounts as the Department specifies in writing, if the Department determines that the postclosure expenditures are in accordance with the approved postclosure plan or otherwise justified. If the Department does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Department will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.145(h).

(b) Surety bond guaranteeing payment into a postclosure trust fund.

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Department. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury and be licensed to do business in South Carolina. (6/89)

(2) The wording of the surety bond must be identical to the wording specified in R.61-79.264.151(b). (12/92; 5/96)

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements specified in section 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in section 265.145(a);

(B) Updating of Schedule A of the trust agreement (see R.61-79.264.151(a)) to show current postclosure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning

of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Department becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court, by State court, or other court of competent jurisdiction; or (12/92; 12/93; 12/94) *

(iii) Provide alternate financial assurance as specified in this section, and obtain the Department's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current postclosure cost estimate, except as provided in section 265.145(f).

(7) Whenever the current postclosure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases, the penal sum may be reduced to the amount of the current postclosure cost estimate following written approval by the Department.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Department has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) Postclosure letter of credit.

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Department. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in R.61-79.264.151(d). (12/92; 5/96)

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Department. This standby trust fund must meet the requirements of the trust fund specified in section 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Department with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in paragraph 265.145(a);

(B) Updating of Schedule A of the trust agreement (see R.61-79.264.151(a)) to show current postclosure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for postclosure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Department have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current postclosure cost estimate, except as provided in section 265.145(f).

(7) Whenever the current postclosure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current postclosure cost estimate following written approval by the Department.

(8) During the period of postclosure care, the Department may approve a decrease in the amount of the

letter of credit if the owner or operator demonstrates to the Department that the amount exceeds the remaining cost of postclosure care.

(9) Following a final administrative determination pursuant to 44-56-140 or section 3008 of RCRA that the owner or operator has failed to perform postclosure care in accordance with the approved postclosure plan and other permit requirements under these regulations, the Department may draw on the letter of credit. (12/92)

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Department will draw on the letter of credit. The Department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Department.

(11) The Department will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.145(h).

(d) Postclosure insurance.

(1) An owner or operator may satisfy the requirements of this section by obtaining postclosure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Department. By the effective date of these regulations the owner or operator must submit to the Department a letter from an insurer stating that the insurer is considering issuance of postclosure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Department or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in the State of South Carolina. (12/93)

(2) The wording of the certificate of insurance must be identical to the wording specified in R.61-79.264.151 (e). (12/92; 5/96)

(3) The postclosure insurance policy must be issued for a face amount at least equal to the current postclosure cost estimate, except as provided in section 265.145(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The postclosure insurance policy must guarantee that funds will be available to provide postclosure care of the facility whenever the postclosure period begins. The policy must also guarantee that once postclosure care begins the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Department, to such party or parties as the Department specifies.

(5) An owner or operator or any other person authorized to perform postclosure care may request reimbursement for postclosure care expenditures by submitting itemized bills to the Department. Within 60 days after receiving bills for postclosure care activities, the Department will determine whether the postclosure expenditures are in accordance with the postclosure plan or otherwise justified, and if so, he will instruct the insurer to make reimbursement in such amounts as the Department specifies in writing. If the Department does not instruct the insurer to make such reimbursements he will provide a detailed written statement of reasons. (12/92)

(6) The owner or operator must maintain the policy in full force and effect until the Department consents to termination of the policy by the owner or operator as specified in paragraph (d)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Department deems necessary. Such violation will be deemed to begin upon receipt by the Department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration. (12/93)

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Department. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Department and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Department deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Department or a State court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current postclosure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current postclosure cost estimate and submit evidence of such increase to the Department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current postclosure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current postclosure cost estimate following written approval by the Department.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Department will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.145(h).

(e) Financial test and corporate guarantee for postclosure care.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria either of paragraph (e)(1)(i) or (ii) of this section: (12/93)

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and postclosure cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer (R.61-79.264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer.

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in R.61-79.264.151(f); (12/92; 5/96) and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days

prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Department. This letter from the chief financial officer must: (12/92)

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and the current closure and postclosure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's latest complete fiscal year before the effective date of these regulations; (12/93)

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Department of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of postclosure care, the Department may approve a decrease in the current postclosure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Department that the amount of the cost estimate exceeds the remaining cost of postclosure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Department releases the owner or operator from the requirements of this section in accordance with section 265.145(h).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee. The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (9) of this section and must comply with the terms of the guarantee. The wording of the guarantee must be identical to the wording specified in 264.151(h). A certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (e)(3) of this section. One of these items must be the letter from the guarantors chief financial officer. If the guarantors parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee. The terms of the corporate guarantee must provide that: (12/93)

(i) If the owner or operator fails to perform postclosure care of a facility covered by the corporate guarantee in accordance with the postclosure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in section 265.145(a) in the name of the owner or operator. (12/92)

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation

by certified mail to the owner or operator and to the Department. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Department, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Department within 90 days after receipt by both the owner or operator and the Department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) Use of multiple financial mechanisms.

An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (b) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current postclosure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Department may use any or all of the mechanisms to provide for postclosure care of the facility. (5/93; 12/93; 5/96)

(g) Use of a financial mechanism for multiple facilities.

An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Department must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for postclosure care assured by the mechanism. If the facilities covered by the mechanism are located both in State and out of state, identical evidence of financial assurance must be submitted to the Department. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for postclosure care of any of the facilities covered by the mechanism, the Department may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism. (12/93)

(h) Release of the owner or operator from the requirements of this section. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that the postclosure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Department will notify the owner or operator in writing that he is no longer required to maintain financial assurance for postclosure care of that unit, unless the Department has reason to believe that postclosure care has not been in accordance with the approved postclosure plan. The Department will provide the owner or operator a detailed written statement of any such reason to believe that postclosure care has not been in accordance with the approved postclosure plan. (6/08)

265.146 Use of a mechanism for financial assurance of both closure and postclosure care

An owner or operator may satisfy the requirements for financial assurance for both closure and postclosure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both sections 265.143 and 265.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of postclosure care.

265.147 Liability requirements

(a) Coverage for sudden accidental occurrences. An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated, as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section: (11/90; 12/93)

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in R.61-79.264.151(i). The wording of the certificate of insurance must be identical to the wording specified in R.61-79.264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Department and to the appropriate EPA Regional Offices where out of state facilities are also being covered. The owner or operator must provide a signed duplicate original of the insurance policy,

application, and any agreements which may affect the policy. (6/89)

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraph (f) and (g) of this section. (11/90; 12/93)

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Department in writing within 30 days whenever: (12/93)

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (a)(1) through (a)(6) of this section; or (12/93)

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (a)(1) through (a)(6) of this section; or (12/93)

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (a)(1) through (6) of this section. (12/93)

(b) Coverage for nonsudden accidental occurrences. An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraphs (b)(1), (2), (3), (4), (5), or (6) of this section: (11/90; 12/92; 12/93)

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in R.61-79.264.151(i). The wording of the certificate of insurance must be identical to the wording specified in R.61-79.264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Department. If requested by the Department, the owner or operator must provide a signed duplicate original of the insurance policy.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in the State of South Carolina.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section. (12/92)

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond

for liability coverage as specified in paragraph (i) of this section.

(5) [Reserved 12/93]

An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Department in writing within 30 days whenever: (12/93)

(i) A claim results in a reduction in the amount of financial assurance for liability coverage provided by a financial instrument authorized in paragraphs (b)(1) through (b)(6) of this section; or (12/93)

(ii) A Certification of Valid Claim for bodily injury or property damages caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is entered between the owner or operator and third-party claimant for liability coverage under paragraphs (b)(1) through (b)(6) of this section; or (12/93)

(iii) A final court order establishing a judgment for bodily injury or property damage caused by a sudden or non-sudden accidental occurrence arising from the operation of a hazardous waste treatment, storage, or disposal facility is issued against the owner or operator or an instrument that is providing financial assurance for liability coverage under paragraphs (b)(1) through (b)(6) of this section. (12/93)

(c) Request for variance. If an owner or operator can demonstrate to the satisfaction of the Department that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Department. The request for a variance must be submitted in writing to the Department. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Department may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Department to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. The Department will process a variance request as if it were a permit modification request under 270.41(a)(5) and subject to the procedures of 124.5. Notwithstanding any other provision, the Department may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to grant a variance (11/90, 12/92)

(d) Adjustments by the Department. If the Department determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Department may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Department, within a reasonable time, any information which the Department requests to determine whether cause exists for such adjustments of level or type of coverage. The Department will process an adjustment of the level of required coverage as if it were a permit modification under R.61-79.270.41(a)(5) and subject to the procedures of R.61-79.124.5. Notwithstanding any other provision, the Department may hold a public hearing at its discretion or whenever it finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage. (12/93)

(e) Period of coverage. Within 60 days after receiving certifications from the owner or operator and a qualified Professional Engineer that final closure has been completed in accordance with the approved closure plan, the Department will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Department has reason to believe that closure has not been in accordance with the approved closure plan.

(f) Financial test for liability coverage.

(1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To

pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii) of this section: (12/93)

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (1) At least 90 percent of his total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Department:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in R.61-79.264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post closure care, as specified by sections 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in section 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in section 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in paragraph (f)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Department. This letter from the chief financial officer must (12/92):

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and postclosure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations; (12/92)

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (f)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Department within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance, a letter of credit, a surety bond, a trust fund, or a guarantee for the entire amount of required liability coverage as specified in this section. Evidence of liability coverage must be submitted to the Department within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements. (12/93)

(7) The Department may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Department will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the

entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) Guarantee for liability coverage (12/92).

(1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee". The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in 264.151(h)(2). A certified copy of the guarantee must accompany the items sent to the Department as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a substantial business relationship with the owner or operator, this letter must describe this substantial business relationship and the value received in consideration of the guarantee. (11/90, 12/92)

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2) (i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (11/90)

(A) the State in which the guarantor is incorporated, and

(B) each State in which a facility covered by the guarantee is located have submitted a written statement to the Department that a guarantee executed as described in this section and 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (11/90):

(A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and if

(B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to the Department that a guarantee executed as described in this section and 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) Letter of credit for liability coverage. (new 11/90)

(1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Department.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in 264.151(k).

(4) An owner or operator who uses a letter of credit to satisfy the requirements of this section may also establish a standby trust fund. Under the terms of such a letter of credit, all amounts paid pursuant to a draft by the trustee of the standby trust will be deposited by the issuing institution into the standby trust in accordance with instructions from the trustee. The trustee of the standby trust fund must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency. (12/93)

(5) The wording of the standby trust fund must be identical to the wording specified in 264.151(n).

(i) Surety bond for liability coverage. (new 11/90)

(1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Department.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in 264.151(l).

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of

(i) the State in which the surety is incorporated, and

(ii) each State in which a facility covered by the surety bond is located have submitted a written statement to the Department that a surety bond executed as described in this section and 264.151(l) is a legally valid and enforceable obligation in that State.

(j) Trust fund for liability coverage. (new 11/90)

(1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust

agreement to the Department.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in 264.151(m) of this part.

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States. (12/93)

265.148 Incapacity of owners or operators, guarantors, or financial institutions

(a) An owner or operator must notify the Department by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in sections 265.143(e) and 265.145(e) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (264.151(h)).

(b) An owner or operator who fulfills the requirements of sections 265.143, 265.145, or 265.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

265.149 Hazardous waste contingency fund

The payment of fees required under 44-56-160, -170, and -510 *et seq.* and under section 262.45, and sections 264.78 and 265.78 will be deposited in the Hazardous Waste Contingency Fund to ensure the availability of funds for contingencies rising from permitted hazardous waste landfills and to defray the costs of governmental response actions at uncontrolled hazardous waste sites. Of the fees collected pursuant to 44-56-170(C), (D), and (E), credited to the contingency fund pursuant to section 44-56-175, thirteen percent must be held separate and distinct within the fund in a permitted site fund for the purpose of response actions arising from the operation of the permitted land disposal facilities in this State. Of the fees collected pursuant to Section 44-56-510 and credited to the contingency fund pursuant to Section 44-56-175, twenty-six percent must be credited to the fund for permitted sites. (12/92; 12/93)

265.150 [Reserved]

265.151 [Reserved]

265.152 -.153 [Removed 6/03]

Subpart I - USE AND MANAGEMENT OF CONTAINERS

265.170 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as section 265.1 provides otherwise. (12/93)

265.171 Condition of containers

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

265.172 Compatibility of waste with container

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

265.173 Management of containers

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

(c) Each container containing hazardous waste shall be permanently and legibly marked with the following or equivalent statement: "Hazardous Waste - federal laws prohibit improper disposal." (5/93, 6/97)

(d) Each container shall be appropriately labeled with EPA Hazardous Waste Number. (5/93)

[Comment: Reuse of containers in transportation is governed by U.S. Department of Transportation regulations, including those set forth in 49 CFR 173.28.] (12/92)

265.174 Inspections

At least weekly, the owner or operator must inspect areas where containers are stored. The owner or operator must look for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors. (12/92, 6/08) [Comment: See 265.171 for remedial action required if deterioration or leaks are detected.]

265.175 Containment

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section. (6/95)

(b) A containment system must be designed and operated as follows:

(1) A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;

(4) Runon into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any runon which might enter the system; and,

(5) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

[Comment: If the collected material is a hazardous waste under 261, it must be managed as a hazardous waste in accordance with all applicable requirements of parts 262 through 266. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.] (12/92)

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, except as provided by paragraph (d) of this section or provided that:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or,

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) Storage areas that store containers holding the wastes listed below that do not contain free liquids must have a containment system defined by paragraph (b) of this section:

(1) FO20, FO21, FO22, FO23, FO26, and FO27.

(2) [Reserved]

(e) This section shall become effective 12 months after publication of the regulation modification in the State Register.

265.176 Special requirements for ignitable or reactive waste

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line. [Comment: See 265.17(a) for additional requirements.]

265.177 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples), must not be placed in the same container, unless section 265.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see Appendix V for examples) unless 265.17(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.] (12/92)

265.178 Air emission standards

The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part. (9/98)

Subpart J - TANK SYSTEMS

265.190 Applicability

The requirements of this subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a), (b), and (c) of this section or in section 265.1 of this part (12/92; 12/93).

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and that are situated inside a building with an impermeable floor are exempted from the requirements in section 265.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, the following test must be used: EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in R.61-79.260.11. (11/90; 12/93)

(b) Tank systems, including sumps, as defined in R.61-79.260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in section 265.193(a). (11/90)

(c) Tanks, sumps, and other collection devices used in conjunction with drip pads, as defined in 260.10 of this chapter and regulated under part 265 subpart W, must meet the requirements of this subpart. (12/92)

265.191 Assessment of existing tank system's integrity

(a) For each existing tank system that does not have secondary containment meeting the requirements of 265.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by a qualified Professional Engineer in accordance with 270.11(d), that attests to the tank system's integrity by January 12, 1988. (12/92, 6/08)

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been or will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available, (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by a qualified Professional Engineer in accordance with 270.11(d) that addresses cracks, leaks, corrosion, and erosion.

[Note: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks, 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.] (12/92)

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986 must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a) of this section, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of section 265.196.

265.192 Design and installation of new tank systems or components

(a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by a qualified Professional Engineer in accordance with 270.11(d) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include the following information:

(1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

(2) Hazardous characteristics of the waste(s) to be handled.

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Stray electric current; and,

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion-protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;

(B) Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints and flanges (12/92).

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the American Petroleum Institute (API) Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in providing corrosion protection for tank systems. (12/92)

(4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or a qualified Professional Engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction or installation. All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components and piping that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is carefully installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported. (11/90)

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed in use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction.

Note: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), Installation of Underground Petroleum Storage Systems, or ANSI Standard B31.3, Petroleum Refinery System, may be used, where applicable, as guidelines for proper installation of piping systems. (12/92)

(f) The owner or operator must provide the type and degree of corrosion protection necessary, based on the information provided under paragraph (a)(3) of this section, to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section to attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section were performed. These written statements must also include the certification statement as required in R.61-79.270.11(d) of this chapter.

265.193 Containment and detection of releases

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new and existing tank systems or components, prior to their being put into service.

(2) For tank systems that store or treat materials that become hazardous wastes, within 2 years of the hazardous waste listing, or when the tank system has reached 15 years of age, whichever comes later. (12/92, 6/08)

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, groundwater, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(2) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the environment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under part 261 of this chapter, it is subject to management as a hazardous waste in accordance with all applicable requirements of parts 262 through 266 of this chapter. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to Publicly Owned Treatment Works (POTW), it is subject to the requirements of section 307 of the Clear Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302. (12/92)

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double walled tank; or

(4) An equivalent device as approved by the Department.

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Free of cracks or gaps; and

(iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Constructed with chemical-resistant water stops in place at all joints (if any);

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under 261.21, or (6/89, 9/98))

(B) Meets the definition of reactive waste under R.61-79.261.23 of this chapter and may form an ignitable or explosive vapor; and (6/89)

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank within an outer shell) so that any release from the inner tank is contained by the outer shell;

(ii) Protected, if constructed of metal, from

both corrosion of the primary tank interior and the external surface of the outer shell; and

(iii) Provided with a built-in, continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time, if the owner or operator can demonstrate to the Department, and the Department concurs, that the existing leak detection technology or site conditions will not allow detection of a release within 24 hours.

Note: The provisions outlined in the Steel Tank Institute's (STI) Standard for Dual Wall Underground Steel Storage Tank may be used as guidelines for aspects of the design of underground steel doublewalled tanks. (12/92)

(f) Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, doublewalled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shutoff devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shutoff devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this Section if the Department finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the groundwater or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to groundwater or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section. Application for a variance as allowed in paragraph (g) of this section does not waive compliance with the requirements of this subpart for new tank systems.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of groundwater and surface water, the Department will consider:

(i) The nature and quantity of the waste;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and groundwater; and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to groundwater or surface water.

(2) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the Department will consider:

(i) The potential adverse effects on groundwater, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on groundwater quality, taking into account:

(A) The quantity and quality of groundwater and the direction of groundwater flow,

(B) The proximity and withdrawal rates of water in the area,

(C) The current and future uses of groundwater in the area, and

(D) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the groundwater quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of groundwater and the direction of groundwater flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of

paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of section 265.196, except paragraph (d); and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system, for which the variance was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirements of R.61-79.265.197(b);

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of section 265.196(a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to groundwater or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed, or if groundwater has been contaminated, the owner or operator must comply with the requirements of section 265.197(b);

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in section 265.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed, and groundwater or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Department must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) of this section according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section; and

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation of the tank system.

(2) As part of the notification, the owner or operator must also submit to the Department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section.

(3) The demonstration for a variance must be completed and submitted to the Department within 180 days after notifying the Department of intent to conduct the demonstration.

(4) The Department will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration for a variance. The Department also will hold a public hearing, in response to a request or at its own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least 30 days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These two notices may be combined.

(5) The Department will approve or disapprove the request for a variance within 90 days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the 90-day time period will begin when the Department receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (h)(4) of this section is extended, the 90-day time period will be similarly extended.

(i) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of section 265.191(b)(5) must be conducted at least annually;

(2) For other than non-enterable underground tanks, and for all ancillary equipment, the owner or operator must either conduct a leak test as in paragraph (i)(1) of this section or an internal inspection or other tank integrity examination by a qualified Professional Engineer that addresses cracks, leaks, and corrosion or erosion at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tanks surfaces to be assessed. (12/92, 6/08)

Note: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, Atmospheric and Low Pressure Storage Tanks, 4th edition, 1981, may be used, when applicable, as guidelines for assessing the over-all condition of the tank system. (12/92)

(3) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(4) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of section 265.196.

265.194 General operating requirements

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of section 265.196 if a leak or spill occurs in the tank system.

265.195 Inspections

(a) The owner or operator must inspect, where present, at least once each operating day, data gathered from monitoring and leak detection equipment (e.g., pressure or temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design. (6/08)

(1) Overfill/spill control equipment (e.g., wastefeed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) The aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(3) Data gathered from monitoring equipment and leak detection equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(4) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation);

Note: Section 265.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 265.196 requires the owner or operator to notify the Department and Regional Administrator within 24 hours of confirming a release. Also, 40 CFR part 302 may require the owner or operator to notify the National Response Center of a release. (12/92; 12/93)

(*b*) Except as noted under the paragraph (c) of this section, the owner or operator must inspect at least once each operating day:

(1) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) Above ground portions of the tank system, if any, to detect corrosion or releases of waste; and

(3) The construction materials and the area immediately surrounding the externally accessible portion of the tank system, including the secondary containment system (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation)

(*c*) Owners or operators of tank systems that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly those areas described in paragraphs (b)(1) through (3) of this section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(*d*) [Reserved]

(*e*) Ancillary equipment that is not provided with secondary containment, as described in 265.193(f)(1) through (4), must be inspected at least once each operating day.

(f) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

Note: The practices described in the National Association of Corrosion Engineers (NACE) standard, Recommended Practice (RP-02-85) - Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems, and the American Petroleum Institute (API) Publication 1632, Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems, may be used, where applicable, as guidelines in maintaining and inspecting cathodic

protection systems. (12/92)

(g) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) and (b) of this section. (6/08)

265.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) Cessation of use; prevent flow or addition of wastes. The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) Removal of waste from tank system or secondary containment system.

(1) If the release was from the tank system, the owner or operator must, within 24 hours after detection of the leak or, if the owner or operator demonstrates that this is not possible, at the earliest practicable time remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the release was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) Containment of visible releases to the environment. The owner or operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) Notifications, reports.

(1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Department within 24 hours of detection.

(2) A leak or spill of hazardous waste that is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up is exempted from the requirements of this paragraph.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Department.

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release, (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Department as soon as they become available;

(iv) Proximity to downgradient drinking water, surface water, and population areas; and

(v) Description of response actions taken or planned.

(e) Provision of secondary containment, repair, or closure.

(1) Unless the owner or operator satisfies the requirements of paragraphs (e) (2) through (4) of this section, the tank system must be closed in accordance with section 265.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of section 265.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in section 265.192 and 265.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with section 265.193 prior to being returned to use.

(f) Certification of major repairs. If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by a qualified Professional Engineer in accordance with 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification is to be placed in the operating record and maintained until closure of the facility. (6/08)

Note: The Department may, on the basis of any information received that there is or has been a release of

hazardous waste or hazardous constituents into the environment, issue an order under 44-56-30, -50, -140, -200 or 48-1-50 *et seq*. or RCRA section 3004(v), 3008(h), or 7003(a) requiring corrective action or such other response as deemed necessary to protect human health or the environment. (12/92)

Note: See 265.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR part 302 and SC 44-56-200 requires the owner or operator to notify the Department and the National Response Center of a release of any reportable quantity. (12/92; 12/93)

265.197 Closure and postclosure care

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless R.61-79.261.3(d) of this Chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in subparts G and H of this part.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform postclosure care in accordance with the closure and postclosure care requirements that apply to landfills (Section 265.310). In addition, for the purposes of closure, postclosure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in subparts G and H of this part.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of sections 265.193(b) through (f) and which is not exempt from the secondary containment requirements in accordance with section 265.193(g), then, (12/92)

(1) The closure plan for the tank system must include both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent postclosure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and postclosure care must reflect the costs of complying with the contingent closure plan and the contingent postclosure plan, if these costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and postclosure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, postclosure, and financial responsibility requirements for landfills under subparts G and H of this part.

265.198 Special requirements for ignitable or reactive wastes

(a) Ignitable or reactive waste must not be placed in a tank system, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under R.61-79.261.21 or 261.23 of this chapter; (12/92) and

(ii) Section 265.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see R.61-79.260.11).

265.199 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system, unless section 265.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless section 265.17(b) is complied with.

265.200 Waste analysis and trial tests

In addition to performing the waste analysis required by section 265.13, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant scale tests); or (11/90)

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of section 265.194(a).

Note: Section 265.13 requires the waste analysis plan to include analyses needed to comply with 265.198 and 265.199. Section 265.73 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility. (12/92)

265.201 Special requirements for generators of between 100 and 1,000 kg/mo that accumulate hazardous waste in tanks

(a) The requirements of this section apply to small quantity generators of more than 100 kg but less than 1,000 kg of hazardous waste in a calendar month, that accumulate hazardous waste in tanks for less than 180 days (or 270 days if the generator must ship the waste greater than 200 miles), and do not accumulate over 6,000 kg onsite at any time. (11/90)

(b) Generators of between 100 and 1,000 kg/mo hazardous waste must comply with the following general operating requirements:

(1) Treatment or storage of hazardous waste in tanks must comply with 265.17(b).

(2) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(3) Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank. (12/93)

(4) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., waste feed cutoff system or bypass system to a standby tank).

Note: These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (e.g., a malfunction in the treatment process, a crack in the tank, etc.).

(c) Except as noted in paragraph (d) of this section, generators who accumulate between 100 and 1,000 kg/mo of hazardous waste in tanks must inspect, where present:

(1) Discharge control equipment (e.g., waste feed cutoff systems, bypass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(3) The level of waste in the tank at least once each operating day to ensure compliance with 265.201(b)(3);

(4) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(5) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

Note: As required by 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.

(d) Generators who accumulate between 100 and 1,000 kg/mo of hazardous waste in tanks or tank systems that have full secondary containment and that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified, must inspect at least weekly, where applicable, the areas identified in paragraphs (c)(1) through (5) of this section. Use of the alternate inspection schedule must be documented in the facility's operating record. This documentation must include a description of the established workplace practices at the facility.

(e) [Reserved]

(f) Generators of between 100 and 1,000 kg/mo accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

Note: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 261.3(c) or (d), that any solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 of this chapter.

(g) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for ignitable or reactive waste:

(1) Ignitable or reactive waste must not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in a tank so that

(A) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 261.21 or 261.23 of this chapter, and

(B) 265.17(b) is complied with; or

(ii) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(iii) The tank is used solely for emergencies.

(2) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981) (incorporated by reference, see 260.11).

(h) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for incompatible wastes:

(1) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same tank, unless 265.17(b) is complied with.

(2) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless 265.17(b) is complied with.

265.202 Air emission standards

The owner or operator shall manage all hazardous waste placed in a tank in accordance with the applicable requirements of subparts AA, BB, and CC of this part. (9/98)

Subpart K - SURFACE IMPOUNDMENTS

265.220 Applicability

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as section 265.1 provides otherwise.

265.221 Design and operating requirements

(a) The owner or operator of each new surface impoundment unit, each lateral expansion of a surface impoundment unit, and each replacement of an existing surface impoundment unit must install two or more liners, and a leachate collection and removal system above and between the liners, and operate the leachate collection and removal system, in accordance with 264.221(c), unless exempted under 264.221(d), (e), or (f). (12/92; 12/93 6/08)

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Department at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement surface impoundment unit is exempt from paragraph (a) of this section if: (12/93)

(1) The existing unit was constructed in compliance with the design standards of 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Department for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristics in R.61-79.261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and (11/90)

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking. For the purposes of this paragraph the term "liner" means a liner designed, constructed, installed, and operated to prevent hazardous waste from passing into the liner at any time during the active life of the facility, or a liner designed, constructed, installed, and operated to prevent hazardous waste from migrating beyond the liner to adjacent subsurface soil, groundwater, or surface water at any time during the active life of the facility. In the case of any surface impoundment which has been exempted from the requirements of paragraph (a) of this section on the basis of a liner designed, constructed, installed, and operated to prevent hazardous waste from passing beyond the liner, at the closure of such impoundment the owner or operator must remove or decontaminate all waste residues, all contaminated liner material, and contaminated soil to the extent practicable. If all contaminated soil is not removed or decontaminated, the owner or operator of such impoundment must comply with appropriate postclosure requirements, including but not limited to groundwater monitoring and corrective action; (12/93)

(B) The monofill is located more than one-quarter mile from an “underground source of drinking water” (as that term is defined in Part 270.2); and (12/93)

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under R.61-79.270 and 44-56-60 or RCRA section 3005(c); or (12/92)

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Department when issuing the first permit under these regulations to such facility, except that the Department will not be precluded from requiring installation of a new liner when the Department has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking. (12/92)

(f) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided

in paragraph (b) of this section, there must be at least 60 centimeters (two feet) of freeboard. (12/93)

(g) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility. (12/93)

(h) Surface impoundments that are newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste must be in compliance with paragraphs (a), (c) and (d) of this section not later than 48 months after the promulgation of the additional listing or characteristic. This compliance period shall not be cut short as the result of the promulgation of land disposal prohibitions under part 268 of this chapter or the granting of an extension to the effective date of a prohibition pursuant to 268.5 of this chapter, within this 48-month period. (12/93)

265.222 Action leakage rate

(a) The owner or operator of surface impoundment units subject to 265.221(a) must submit a proposed action leakage rate to the Department when submitting the notice required under 265.221(b). Within 60 days of receipt of the notification, the Department will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Department before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator. (12/93)

(b) The Department shall approve an action leakage rate for surface impoundment units subject to 265.221(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under 265.226(b), to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and if the unit closes in accordance with 265.228(a)(2), monthly during the post-closure care period when monthly monitoring is required under 265.226(b).

265.223 Containment system

All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

265.224 Response actions

(a) The owner or operator of surface impoundment units subject to 265.221(a) must develop and keep on site until closure of the facility a response action plan. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section. (12/93, 6/08)

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Department in writing of the exceedence within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and

mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

265.224 [Reserved]

265.225 Waste analysis and trial tests

(a) In addition to the waste analyses required by section 265.13, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this treatment will comply with paragraph 265.17(b).

[Comment: As required by 265.13, the waste analysis plan must include analyses needed to comply with 265.229 and 265.230. As required by 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.] (12/92)

265.226 Monitoring and inspection

(a) The owner or operator must inspect: (12/93)

(1) The freeboard level at least once each operating day to ensure compliance with section 265.222, and

(2) The surface impoundment, including dikes and vegetation surrounding the dike, at least once a week to detect any leaks, deterioration, or failures in the impoundment.

[Comment: As required by 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.] (12/92)

(b) (1) An owner or operator required to have a leak detection system under 265.221(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

(2) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months. (12/93)

(3) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed "pump operating level" will be in accordance with 265.222(a). (12/93)

265.227 [Reserved]

265.228 Closure and postclosure care

(a) At closure, the owner or operator must: (11/90)

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless section 261.3(d) of this chapter applies; or

(2) Close the impoundment and provide postclosure care for a landfill under subpart G and section 265.310, including the following:

(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support the final cover (12/92); and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) In addition to the requirements of subpart G, and section 265.310, during the postclosure care period, the owner or operator of a surface impoundment in which wastes, waste residues, or contaminated materials remain after closure in accordance with the provisions of paragraph (a)(2) of this section must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as

necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the leak detection system in accordance with 264.221(c)(2)(iv) and (3) of this chapter and 265.226(b) and comply with all other applicable leak detection system requirements of this part; (12/93; 5/96)

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; and (12/93)

(4) Prevent runon and runoff from eroding or otherwise damaging the final cover. (12/93)

265.229 Special requirements for ignitable or reactive waste

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of 268, and: (12/92)

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under sections 261.21 or 261.23 of this chapter; and (11/90)

(2) Section 265.17(b) is complied with; or

(b) (1) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; and

(2) The owner or operator obtains a certification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

265.230 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same surface impoundment, unless 265.17(b) is complied with. (12/93)

265.231 Air emission standards

The owner or operator shall manage all hazardous waste placed in a surface impoundment in accordance with the applicable requirements of subparts BB and CC of this part. (9/98)

Subpart L - WASTE PILES

265.250 Applicability

The regulations in this subpart apply to owners and operators of facilities that treat or store hazardous waste in piles, except as section 265.1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under subpart N. (12/93)

265.251 Protection from wind

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled.

265.252 Waste analysis

In addition to the waste analyses required by section 265.13, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, unless (1)The only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

[Comment: As required by 265.13, the waste analysis plan must include analyses needed to comply with 265.256 and 265.257. As required by 265.73, the owner or operator must place the results of this analysis in the operating record of the facility.] (12/92)

265.253 Containment

If leachate or runoff from a pile is a hazardous waste, then either:

(a) (1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm;

(3) The owner or operator must design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b) (1) The pile must be protected from precipitation and runon by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

[Comment: If collected leachate or runoff is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.] (12/92)

265.254 Design and operating requirements

The owner or operator of each new waste pile on

which construction commences after January 29, 1992, each lateral expansion of a waste pile unit on which construction commences after July 29, 1992, and each such replacement of an existing waste pile unit that is to commence reuse after July 29, 1992 must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal systems, in accordance with 264.251(c), unless exempted under 264.251(d), (e), or (f), of this chapter; and must comply with the procedures of 265.221(b). "Construction commences" is as defined in 260.10 of this chapter under "existing facility". (12/93)

265.255 Action leakage rates

(a) The owner or operator of waste pile units subject to 265.254 must submit a proposed action leakage rate to the Department when submitting the notice required under 265.254. Within 60 days of receipt of the notification, the Department will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Department before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator. (12/93)

(b) The Department shall approve an action leakage rate for waste piles subject to 265.254. The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly flow rate from the monitoring data obtained under 265.260, to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period.

265.256 Special requirements for ignitable or reactive waste

(a) Ignitable or reactive waste must not be placed in a pile unless the waste and pile satisfy all applicable requirements of 268, and: (12/92)

(1) Addition of the waste to an existing pile

(i) results in the waste or mixture no longer meeting the definition of ignitable or reactive waste under sections 261.21 or 261.23 of this chapter, and

(ii) complies with section 265.17(b); or

(2) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

265.257 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same pile, unless section 265.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device. (11/90)

[Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the contact or mixing of incompatible wastes or materials.] (12/92)

(c) Hazardous waste must not be piled on the same area where incompatible wastes or materials were previously piled, unless that area has been decontaminated sufficiently to ensure compliance with section 265.17(b). (11/90)

265.258 Closure and postclosure care

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless R.61-79.261.3(d) of this chapter applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform postclosure care in accordance with the closure and postclosure requirements that apply to landfills. (12/92; 12/93)

265.259 Response actions

(a) The owner or operator of waste pile units subject to 265.254 must develop and keep on-site until closure of the facility a response action plan. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section. (6/08, 12/93)

(b) If the flow rate into the leak determination system exceeds the action leakage rate for any sump, the owner

or operator must:

(1) Notify the Department in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipts should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1)(i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

265.260 Monitoring and inspection

An owner or operator required to have a leak detection system under 265.254 must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

Subpart M - LAND TREATMENT

265.270 Applicability

The regulations in this subpart apply to owners and operators of hazardous waste land treatment facilities, except as section 265.1 provides otherwise. (12/92; 12/93)

265.271 [Reserved]

265.272 General operating requirements

(a) Hazardous waste must not be placed in or on a land treatment facility unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilization processes occurring in or on the soil.

(b) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the active portions of the facility during peak discharge from at least a 25-year storm.

(c) The owner or operator must design, construct, operate, and maintain a runoff management system capable of collecting and controlling a water volume at least equivalent to a 24-hour, 25-year storm.

(d) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal. (12/92)

265.273 Waste analysis

In addition to the waste analyses required by section 265.13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must: (12/93)

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of R.61-79.261.24 of this chapter that cause a waste to exhibit the Toxicity Characteristic; (11/90)

(b) For any waste listed in R.61-79.261, subpart D, of this chapter, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, unless the owner or operator has written, documented data that show that the constituent is not present. [Comment: part 261 of this chapter specifies the substances for which a waste is listed as a hazardous waste. As required by 265.13, the waste analysis plan must include analyses needed to comply with 265.281 and 265.282. As required by 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] (12/92)

265.274 - 265.275 [Reserved]

265.276 Food chain crops

(a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the

future, must notify the Department.

[Comment: The growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under 270.72(a)(3). (12/92, 6/04)

(b) (1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under 265.273(b): (12/93)

(i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or (12/92)

(ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region. (12/92)

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this section must be kept at the facility and must, at a minimum: (12/92)

(i) Be based on tests for the specific waste and application rates being used at the facility; and

(ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1) (i) through (iii) of this section or all requirements of paragraphs (c)(2) (i) through (iv) of this section are met.

(1) (i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed: (12/92)

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984...	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987...	0.5

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) or (B) of this section.

(A)

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha) Background soil pH less than 6.5	Background soil pH greater than 6.5
Less than 5.....	5	5
5 to 15.....	5	10
Greater than 15.....	5	20

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: Provided, that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5.....	5
5 to 15.....	10
Greater than 15.....	20

(2) (i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown. (12/92; 12/93)

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this section. (12/92)

[Comment: As required by 265.73, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.] (12/92)

265.277 [Reserved]

265.278 Unsaturated zone (zone of aeration) monitoring

(a) The owner or operator must have in writing, and must implement, an unsaturated zone monitoring plan which is designed to:

(1) Detect the vertical migration of hazardous waste and hazardous waste constituents under the active portion of the land treatment facility, and

(2) Provide information on the background concentrations of the hazardous waste and hazardous waste constituents in similar but untreated soils nearby; this background monitoring must be conducted before or

in conjunction with the monitoring required under paragraph (a)(1) of this section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in 265.273(a) and (b)) in the waste and in the soil; and (12/93)

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to groundwater, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil pore-water samples for the hazardous waste constituents that were found in the waste during the waste analysis under 265.273(a) and (b). (12/93)

[Comment: As required by 265.73, all data and information developed by the owner or operator under this section must be placed in the operating record of the facility.] (12/92)

265.279 Recordkeeping

The owner or operator must include hazardous waste application dates and rates in the operating record required under section 265.73. (12/92; 12/93)

265.280 Closure and postclosure

(a) In the closure plan under section 265.112, and the postclosure plan under section 265.118, the owner or operator must address the following objectives and indicate how they will be achieved: (12/93)

(1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the groundwater;

(2) Control of the release of contaminated runoff from the facility into surface water;

(3) Control of the release of airborne particulate contaminants caused by wind erosion; and

(4) Compliance with section 265.276 concerning the growth of food chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and postclosure care objectives of paragraph (a) of this section:

(1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to groundwater, surface water and drinking water sources);

(4) Climate, including amount, frequency, and pH of precipitation;

(5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;

(6) Unsaturated zone monitoring information obtained under section 265.278; and

(7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(c) The owner or operator must consider at least the following methods in addressing the closure and postclosure care objectives of paragraph (a) of this section:

(1) Removal of contaminated soils;

(2) Placement of a final cover, considering:

(i) Functions of the cover (e.g., infiltration control, erosion and runoff control, and wind erosion control); and

(ii) Characteristics of the cover, including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(3) Monitoring of groundwater.

In addition to the requirements of subpart G of this part, during the closure period the owner or operator of a land treatment facility must:

(1) Continue unsaturated zone monitoring in a manner and frequency specified in the closure plan, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone;

(2) Maintain the runon control system required under paragraph 265.272(b);

(3) Maintain the runoff management system required under paragraph 265.272(c); and

(4) Control wind dispersal of particulate matter which may be subject to wind dispersal.

(e) For the purpose of complying with 265.115, when closure is completed the owner or operator may submit to the Department certification both by the owner or operator and by an independent, qualified soil scientist, in lieu of a qualified Professional Engineer, that the facility has been closed in accordance with the specifications in the approved closure plan. (12/93 6/08)

(f) In addition to the requirements of 265.117, during

the postclosure care period the owner or operator of a land treatment unit must: (12/93)

(1) Continue soil core monitoring by collecting and analyzing samples in a manner and frequency specified in the postclosure plan;

(2) Restrict access to the unit as appropriate for its postclosure use;

(3) Assure that growth of food chain crops complies with 265.276; and (11/90; 12/93)

(4) Control wind dispersal of hazardous waste.

265.281 Special requirements for ignitable or reactive waste

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and treatment zone meet all applicable requirements of 268, and: (12/92)

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 261.21 or 261.23 of this chapter; and (12/92; 12/93)

(2) Section 265.17(b) is complied with; or (12/93)

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

265.282 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same land treatment area, unless section 265.17(b) is complied with. (11/90; 12/92; 12/93)

Subpart N - LANDFILLS

265.300 Applicability

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as section 265.1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this subpart. (12/93)

265.301 Design and operating requirements

(a) The owner or operator of each new landfill unit, each lateral expansion of a landfill unit, and each replacement of an existing landfill unit must install two or more liners and a leachate collection and removal system above and between such liners, and operate the leachate collection and removal system, in accordance with 264.301(c), unless exempted under 264.301(d), (e), or (f). (12/92; 12/93)

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Department at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) The owner or operator of any replacement landfill unit is exempt from paragraph (a) of this section if:

(1) The existing unit was constructed in compliance with the design standards of section 3004(o)(1)(A)(i) and (o)(5) of the Resource Conservation and Recovery Act; and

(2) There is no reason to believe that the liner is not functioning as designed. (12/93)

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Department for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in R.61-79.261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and (12/93)

(2) (i) (A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an "underground source of drinking water" (as that term is defined in Department regulation R.61-68); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under R.61-79.270 and 44-56-60 or RCRA section 3005(c) (12/92); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Department when issuing the first permit to such facility, except that the Department will not be precluded from requiring installation of a new liner when the Department has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking. (12/92; 12/93)

(f) The owner or operator must design, construct, operate, and maintain a runon control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm. (12/93)

(g) The owner or operator must design, construct, operate and maintain a runoff management system to collect and control at least the water volume resulting

from a 24-hour, 25-year storm. (12/93)

(h) Collection and holding facilities (e.g., tanks or basins) associated with runon and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system. (12/93)

(i) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled. (12/93)

(j) The owner or operator of a landfill which is not exempt from the requirements of R.61-79.265 Subpart F pursuant to R.61-79.265.90(c) shall maintain at least ten feet of naturally occurring material with an average permeability of no more than 1 E-06 centimeter per second directly beneath and in contact with the bottom of the constructed liner system as required under R.61-79.265.301(a). (6/95)

[Comment: As required by 265.13, the waste analysis plan must include analyses needed to comply with 265.312, 265.313, and 265.314. As required by 265.73, the owner or operator must place the results of these analyses in the operating record of the facility.] (12/92; moved 12/93; moved 5/96)

265.302 Action leakage rate

(a) The owner or operator of landfill units subject to 265.301(a) must submit a proposed action leakage rate to the Department when submitting the notice required under 265.301(b). Within 60 days of receipt of the notification, the Department will: Establish an action leakage rate, either as proposed by the owner or operator or modified using the criteria in this section; or extend the review period for up to 30 days. If no action is taken by the Department before the original 60 or extended 90 day review periods, the action leakage rate will be approved as proposed by the owner or operator. (12/93)

(b) The Department shall approve an action leakage rate for landfill units subject to 265.301(a). The action leakage rate is the maximum design flow rate that the leak detection system (LDS) can remove without the fluid head on the bottom liner exceeding 1 foot. The action leakage rate must include an adequate safety margin to allow for uncertainties in the design (e.g., slope, hydraulic conductivity, thickness of drainage material), construction, operation, and location of the LDS, waste and leachate characteristics, likelihood and amounts of other sources of liquids in the LDS, and proposed response actions (e.g., the action leakage rate must consider decreases in the flow capacity of the system over time resulting from siltation and clogging, rib layover and creep of synthetic components of the system, overburden pressures, etc.).

(c) To determine if the action leakage rate has been exceeded, the owner or operator must convert the weekly or monthly flow rate from the monitoring data obtained under 265.304 to an average daily flow rate (gallons per acre per day) for each sump. Unless the Department approves a different calculation, the average daily flow rate for each sump must be calculated weekly during the active life and closure period, and monthly during the post-closure care period when monthly monitoring is required under 265.304(b).

265.303 Response actions

(a) The owner or operator of landfill units subject to 265.301(a) must develop and keep on site until closure of the facility a response action plan. The response action plan must set forth the actions to be taken if the action leakage rate has been exceeded. At a minimum, the response action plan must describe the actions specified in paragraph (b) of this section. (6/08, 12/93)

(b) If the flow rate into the leak detection system exceeds the action leakage rate for any sump, the owner or operator must:

(1) Notify the Department in writing of the exceedance within 7 days of the determination;

(2) Submit a preliminary written assessment to the Department within 14 days of the determination, as to the amount of liquids, likely sources of liquids, possible location, size, and cause of any leaks, and short-term actions taken and planned;

(3) Determine to the extent practicable the location, size, and cause of any leak;

(4) Determine whether waste receipt should cease or be curtailed, whether any waste should be removed from the unit for inspection, repairs, or controls, and whether or not the unit should be closed;

(5) Determine any other short-term and longer-term actions to be taken to mitigate or stop any leaks; and

(6) Within 30 days after the notification that the action leakage rate has been exceeded, submit to the Department the results of the analyses specified in paragraphs (b)(3), (4), and (5) of this section, the results of actions taken, and actions planned. Monthly thereafter, as long as the flow rate in the leak detection system exceeds the action leakage rate, the owner or operator must submit to the Department a report summarizing the results of any remedial actions taken and actions planned.

(c) To make the leak and/or remediation determinations in paragraphs (b)(3), (4), and (5) of this section, the owner or operator must:

(1) (i) Assess the source of liquids and amounts of liquids by source,

(ii) Conduct a fingerprint, hazardous constituent, or other analyses of the liquids in the leak detection system to identify the source of liquids and possible location of any leaks, and the hazard and mobility of the liquid; and

(iii) Assess the seriousness of any leaks in terms of potential for escaping into the environment; or

(2) Document why such assessments are not needed.

265.304 Monitoring and inspection

(a) An owner or operator required to have a leak detection system under 265.301(a) must record the amount of liquids removed from each leak detection system sump at least once each week during the active life and closure period. (12/93)

(b) After the final cover is installed, the amount of liquids removed from each leak detection system sump must be recorded at least monthly. If the liquid level in the sump stays below the pump operating level for two consecutive months, the amount of liquids in the sumps must be recorded at least quarterly. If the liquid level in the sump stays below the pump operating level for two consecutive quarters, the amount of liquids in the sumps must be recorded at least semi-annually. If at any time during the post-closure care period the pump operating level is exceeded at units on quarterly or semi-annual recording schedules, the owner or operator must return to monthly recording of amounts of liquids removed from each sump until the liquid level again stays below the pump operating level for two consecutive months.

(c) "Pump operating level" is a liquid level proposed by the owner or operator and approved by the Department based on pump activation level, sump dimensions, and level that avoids backup into the drainage layer and minimizes head in the sump. The timing for submission and approval of the proposed "pump operating level" will be in accordance with 265.302(a).

265.305 - 265.308 [Reserved]

265.309 Surveying and recordkeeping

The owner or operator of a landfill must maintain the following items in the operating record required in section 265.73: (12/93)

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(c) The date and volume of leachate which was withdrawn from the cells. (6/89)

265.310 Closure and postclosure care

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to: (11/90)

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all postclosure requirements contained in sections 265.117 through section 265.120 including maintenance and monitoring throughout the postclosure care period. The owner or operator must: (11/90; 12/93)

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events; (12/92)

(2) Maintain and monitor the leak detection system in accordance with 264.301(c)(3)(iv) and (4) of this chapter and 265.304(b), and comply with all other applicable leak detection system requirements of this part; (12/93)

(3) Maintain and monitor the groundwater monitoring system and comply with all other applicable requirements of subpart F of this part; (12/93)

(4) Prevent runon and runoff from eroding or otherwise damaging the final cover; and (12/93)

(5) Protect and maintain surveyed benchmarks used in complying with section 265.309. (12/93)

265.311 [Reserved]

265.312 Special requirements for ignitable or reactive waste

(a) Except as provided in paragraph (b) of this section, and in section 265.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meets all applicable requirements of 268, and: (12/92)

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under R.61-79.261.21 or 261.23 of this chapter; and

(2) Section 265.17(b) is complied with. (12/93)

(b) Except for prohibited wastes which remain subject to treatment standards in subpart D of part 268, ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste. (12/92)

265.313 Special requirements for incompatible wastes

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same landfill cell, unless 265.17(b) is

complied with. (12/93)

265.314 Special requirements for bulk and containerized liquids

(a) The placement of bulk or noncontainerized liquid hazardous waste or hazardous waste containing free liquids (whether or not sorbents have been added) in any landfill is prohibited.
(12/92; 12/93, 6/08)

(b) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid (i) has been removed by decanting, or other methods, (ii) has been mixed with sorbent or solidified so that free-standing liquid is no longer observed; or (iii) had been otherwise eliminated; or (12/93)

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in section 265.316 and is disposed of in accordance with section 265.316.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in R.61-79.260.11. (12/93)

(d) The date for compliance with paragraph (a) of this section is November 19, 1981. The date for compliance with paragraph (c) of this section is March 22, 1982. (12/92)

(e) Sorbents used to treat free liquids to be disposed of in landfills must be nonbiodegradable. Nonbiodegradable sorbents are: materials listed or described in paragraph (e)(1) of this section; materials that pass one of the tests in paragraph (e)(2) of this section; or materials that are determined by the Department to be nonbiodegradable through the Part 260 petition process. (12/93)

(1) Nonbiodegradable sorbents.

(i) Inorganic minerals, other inorganic materials, and elemental carbon (e.g., aluminosilicates, clays, smectites, Fuller's earth, bentonite, calcium bentonite, montmorillonite, calcined montmorillonite, kaolinite, micas (illite), vermiculites, zeolites; calcium carbonate (organic free limestone); oxides/hydroxides, alumina, lime, silica (sand), diatomaceous earth; perlite (volcanic glass); expanded volcanic rock; volcanic ash; cement kiln dust; fly ash; rice hull ash; activated charcoal/activated carbon); or

(ii) High molecular weight synthetic polymers (e.g., polyethylene, high density polyethylene (HDPE), polypropylene, polystyrene, polyurethane, polyacrylate, polynorborene, polyisobutylene, ground synthetic rubber, cross-linked allylstyrene and tertiary butyl copolymers). This does not include polymers derived from biological material or polymers specifically designed to be degradable; or

(iii) Mixtures of these nonbiodegradable materials.

(2) Tests for nonbiodegradable sorbents.

(i) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 (1984a)-Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G21-70 (1984a)-Standard Practice for Determining Resistance of Synthetic Polymer Materials to Fungi; or

(ii) The sorbent material is determined to be nonbiodegradable under ASTM Method G22-76 (1984b)-Standard Practice for Determining Resistance of Plastics to Bacteria; or (9/98)

(iii) The sorbent material is determined to be non-biodegradable under OECD test 301B: [CO_2 Evolution (Modified Sturm Test)]. (9/98)

(f) The placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Department, that: (12/92; 12/93, 6/08)

(f)(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under insterim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any ''underground source of drinking water'' (as that term is defined in 40 CFR 270.2).

265.315 Special requirements for containers

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed or buried in the landfill; or (6/95)

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before placement or burial in the landfill. (6/95)

265.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs)

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of

the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of sorbent material, determined to be nonbiodegradable in accordance with 265.314(e), to completely sorb all of the liquid contents of the inside containers. The metal outer container must be full after it has been packed with inside containers and sorbent material. (12/93)

(c) The sorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with 265.17(b). (12/93)

(d) Incompatible wastes, as defined in R.61-79.260.10 of this chapter, must not be placed in the same outside container.

(e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in R.61-79.261.23(a)(5) of this chapter, must be treated or rendered nonreactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with paragraphs (a) through (d) of this section without first being treated or rendered nonreactive.

(f) Such disposal is in compliance with the requirements part 268. Persons who incinerate lab packs according to the requirements in 268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section. (12/92)

Subpart O - INCINERATORS

265.340 Applicability

(a) The regulations of this Subpart apply to owners and operators of hazardous waste incinerators (as defined in 260.10 of this chapter), except as 265.1 provides otherwise. (6/03, 6/06)

(b) Integration of the MACT standards.

(1) Except as provided by paragraphs (b)(2) and (b)(3), the standards no longer apply when an owner or operator demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting to the Department a Notification of Compliance under 40 CFR part 63.1207(j) and 63.1210(d) documenting compliance with the requirements of part 63, subpart EEE. (6/08)

(2) The following requirements continue to apply:

(i) the closure requirements of 266.102(e)(11) and 266.103(l);

(ii) the standards for direct transfer of 266.111

(iii) the standards for regulation of residues of 266.212; and

(iv) the applicable requirements of Subparts A through H, BB and CC of parts 264 and 265. (6/06)

(3) Section 265.345 generally prohibiting burning of hazardous waste during startup and shutdown remains in effect if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup and shutdown.

(c) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this Subpart, except 265.351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in part 261, Appendix VIII, of this chapter, and such documentation is retained at the facility, if the waste to be burned is:

265.341 Waste analysis

In addition to the waste analyses required by section 265.13, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine: (12/93)

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[Comment: As required by 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] (12/92)

265.342 - 265.344 [Reserved]

265.345 General operating requirements

During startup and shutdown of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and airflow. (12/92)

265.346 [Reserved]

265.347 Monitoring and inspections

The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator. Instruments

which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

265.348 - 265.350 [Reserved]

265.351 Closure

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator.
[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 261.3(d) of this chapter, that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262 through 266 and 268 of this chapter.] (12/92)

265.352 Interim status incinerators burning particular hazardous wastes

(a) Owners or operators of incinerators subject to this subpart may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the Department that they can meet the performance standards of subpart O of part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify an incinerator:

(1) The owner or operator will submit an application to the Department containing applicable information in R.61-79.270.19 and 270.62 demonstrating that the incinerator can meet the performance standards in subpart O of part 264 when they burn these wastes.

(2) The Department will issue a tentative decision as to whether the incinerator can meet the performance standards in subpart O of part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The Department will accept comment on the tentative decision for 60 days. The Department also may hold a public hearing upon request or at its discretion.

(3) After the close of the public comment period, the Department will issue a decision whether or not to certify the incinerator.

265.353 - 265.369 [Reserved 6/03]

Subpart P - THERMAL TREATMENT

265.370 Other thermal treatment

The regulations in this subpart apply to owners or operators of facilities that thermally treat hazardous waste in devices other than enclosed devices using controlled flame combustion, except as section 265.1 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements of subpart O if the unit is an incinerator, and subpart H of part 266, if the unit is a boiler or an industrial furnace as defined in 260.10 . (12/92,,5/93, 6/06)

265.371 - 265.372 [Reserved]

265.373 General operating requirements

Before adding hazardous waste, the owner or operator must bring his thermal treatment process to steady state (normal) conditions of operation - including steady state operating temperature - using auxiliary fuel or other means, unless the process is a noncontinuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

265.374 [Reserved]

265.375 Waste analysis

In addition to the waste analyses required by subpart B section 265.13, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a noncontinuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.
[Comment: As required by 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.] (12/92)

265.376 [Reserved]

265.377 Monitoring and inspections

(a) The owner or operator must conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every 15

minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

265.378 - 265.380 [Reserved]

265.381 Closure

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 261.3(c) or (d) of this chapter, that any solid waste removed from his thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, 265 and 268.] (12/92)

265.382 Open burning; waste explosives

Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100.....	204 meters (670 ft)
101 to 1,000.....	380 meters (1,250 ft)
1,001 - 10,000.	530 meters (1,730 ft)
10,001-30,000	690 meters (2,260 ft)

265.383 Interim status thermal treatment devices burning particular hazardous waste

(a) Owners or operators of thermal treatment devices subject to this subpart may burn EPA Hazardous Wastes F020, F021, F022, F023, F026, or F027 if they receive a certification from the Department that they can meet the performance standards of subpart O of part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the Department containing the applicable information in 270.19 and 270.62 demonstrating that the thermal treatment unit can meet the performance standard in subpart O of part 264 when they burn these wastes.

(2) The Department will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in subpart O of part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The Department will accept comment on the tentative decision for 60 days. The Department also may hold a public hearing upon request or at its discretion.

(3) After the close of the public comment period, the Department will issue a decision whether or not to certify the thermal treatment unit.

Subpart Q - CHEMICAL, PHYSICAL, AND BIOLOGICAL TREATMENT

265.400 Applicability

The regulations in this subpart apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as section 265.1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with subparts J, K, and M, respectively. (12/93)

265.401 General operating requirements

(a) Chemical, physical, or biological treatment of hazardous waste must comply with paragraph 265.17(b). (12/93)

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or

equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

[Comment: These systems are intended to be used in the event of a malfunction in the treatment process or equipment.] (12/92)

265.402 Waste analysis and trial tests

(a) In addition to the waste analysis required by section 265.13, whenever: (12/93)

(1) A hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or (12/92)

(2) A substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste; the owner or operator must, before treating the different waste or using the different process or equipment:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions; to show that this proposed treatment will meet all applicable requirements of 265.401 (a) and (b). (12/93)

Comment: As required by 265.13, the waste analysis plan must include analyses needed to comply with 265.405 and 265.406. As required by 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility. (12/92)

265.403 Inspections

(a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

[Comment: As required by 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.] (12/92)

265.404 Closure

At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

[Comment: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with 261.3 (c) or (d) of this chapter, that any solid waste removed from his treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of parts 262, 263, and 265 and 268.] (12/92; 12/93)

265.405 Special requirements for ignitable or reactive waste

(a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under 261.21 or 261.23 of this chapter, and (ii) section 265.17(b) is complied with; or (12/93)

(2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

265.406 Special requirements for incompatible wastes

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same treatment process or equipment, unless 265.17(b) is complied with. (12/93)

(b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless 265.17(b) is complied with. (12/93)

265.407 - 265.429 [Reserved]

265.430 [Reserved 6/95]

Subparts R-V [Reserved]

Subpart W - DRIP PADS

265.440 Applicability

(a) The requirements of this subpart apply to owners and operators of facilities that use new or existing drip pads to convey treated wood drippage, precipitation, and/or surface water runoff to an associated collection system. Existing drip pads are those constructed before December 6, 1990, and those for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 6, 1990. All other drip pads are new drip pads. The requirement at 265.443(b)(3) to install a leak collection system applies only to those drip pads that are

constructed after December 24, 1992 except for those constructed after December 24, 1992 for which the owner or operator has a design and has entered into binding financial or other agreements for construction prior to December 24, 1992. (12/92, 12/93)

(b) The owner or operator of any drip pad that is inside or under a structure that provides protection from precipitation so that neither runoff nor runon is generated is not subject to regulation under 265.443(e) or 265.443(f), as appropriate.

(c) The requirements of this subpart are not applicable to the management of infrequent and incidental drippage in storage yards provided that: (12/93)

(1) The owner or operator maintains and complies with a written contingency plan that describes how the owner or operator will respond immediately to the discharge of such infrequent and incidental drippage. At a minimum, the contingency plan must describe how the facility will do the following:

(i) Clean up the drippage;

(ii) Document the cleanup of the drippage;

(iii) Retain documents regarding cleanup for three years; and

(iv) Manage the contaminated media in a manner consistent with State regulations.

265.441 Assessment of existing drip pad integrity

(a) For each existing drip pad as defined in 265.440, the owner or operator must evaluate the drip pad and determine that it meets all of the requirements of this subpart, except the requirements for liners and leak detection systems of 265.443(b). No later than the effective date of this rule, the owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by a qualified Professional Engineer that attests to the results of the evaluation. The assessment must be reviewed, updated, and recertified annually until all upgrades, repairs, or modifications necessary to achieve compliance with all the standards of 265.443 are complete. The evaluation must document the extent to which the drip pad meets each of the design and operating standards of 265.443, except the standards for liners and leak detection systems, specified in 265.443(b). (12/93, 6/08)

(b) The owner or operator must develop a written plan for upgrading, repairing, and modifying the drip pad to meet the requirements of 265.443(b), and submit the plan to the Department no later than 2 years before the date that all repairs, upgrades, and modifications are complete. This written plan must describe all changes to be made to the drip pad in sufficient detail to document compliance with all the requirements of 265.443. The plan must be reviewed and certified by a qualified Professional Engineer. (12/93, 6/08)

(c) Upon completion of all repairs and modifications, the owner or operator must submit to the Department the as-built drawings for the drip pad together with a certification by a qualified Professional Engineer attesting that the drip pad conforms to the drawings. (6/08)

(d) If the drip pad is found to be leaking or unfit for use, the owner or operator must comply with the provisions of 265.443(m) of this subpart or close the drip pad in accordance with 265.445 of this subpart.

265.442 Design and installation of new drip pads

Owners and operators of new drip pads must ensure that the pads are designed, installed, and operated in accordance with one of the following: (12/93)

(a) All of the applicable requirements of 265.443 (except 265.443(a)(4)), 265.444 and 265.445 of this subpart, or (12/93)

(b) All of the applicable requirements of 265.443 (except 265.443(b)), 265.444 and 265.445 of this subpart. (12/93)

265.443 Design and operating requirements

(a) Drip pads must:

(1) Be constructed of nonearthen materials, excluding wood and nonstructurally supported asphalt;

(2) Be sloped to free-drain treated wood drippage, rain and other waters, or solutions of drippage and water or other wastes to the associated collection system;

(3) Have a curb or berm around the perimeter;

(4) (12/93)

(i) Have a hydraulic conductivity of less than or equal to $1x10^{-7}$ centimeters per second, e.g., existing concrete drip pads must be sealed, coated, or covered with a surface material with a hydraulic conductivity of less than or equal to $1x10^{-7}$ centimeters per second such that the entire surface where drippage occurs or may run across is capable of containing such drippage and mixtures of drippage and precipitation, materials, or other wastes while being routed to an associated collection system. This surface material must be maintained free of cracks and gaps that could adversely affect its hydraulic conductivity, and the material must be chemically compatible with the preservatives that contact the drip pad. The requirements of this provision apply only to existing drip pads and those drip pads for which the owner or operator elects to comply with 265.442(b) instead of 265.442(a). (12/93; revised 12/94)

(ii) The owner or operator must obtain and keep on file at the facility a written assessment of the drip pad, reviewed and certified by a qualified Professional Engineer that attests to the results of the evaluation. The assessment must be reviewed, updated and recertified annually. The evaluation must document the extent to which the drip pad meets the design and operating standards of this section, except for paragraph (b) of this section. (12/93; revised 12/94 and note removed, 6/08)

(5) Be of sufficient structural strength and thickness to prevent failure due to physical contact, climatic conditions, the stress of installation, and the

stress of daily operations, e.g., variable and moving loads such as vehicle traffic, movement of wood, etc. Note: The Department will generally consider applicable standards established by professional organizations generally recognized by industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirement of this paragraph.

(b) If an owner/operator elects to comply with 265.442(a) instead of 265.442(b), the drip pad must have: (12/93; 12/94)

(1) A synthetic liner installed below the drip pad that is designed, constructed, and installed to prevent leakage from the drip pad into the adjacent subsurface soil or groundwater or surface water at any time during the active life (including the closure period) of the drip pad. The liner must be constructed of materials that will prevent waste from being absorbed into the liner and prevent releases into the adjacent subsurface soil or ground water or surface water during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or drip pad leakage to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from vehicular traffic on the drip pad);

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression or uplift; and

(iii) Installed to cover all surrounding earth that could come in contact with the waste or leakage; and

(2) A leakage detection system immediately above the liner that is designed, constructed, maintained and operated to detect leakage from the drip pad. The leakage detection system must be:

(i) Constructed of materials that are:

(A) Chemically resistant to the waste managed in the drip pad and the leakage that might be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying materials and by any equipment used at the drip pad; and

(ii) Designed and operated to function without clogging through the scheduled closure of the drip pad.

(iii) Designed so that it will detect the failure of the drip pad or the presence of a release of hazardous waste or accumulated liquid at the earliest practicable time.

(3) A leakage collection system immediately above the liner that is designed, constructed, maintained and operated to collect leakage from the drip pad such that it can be removed from below the drip pad. The date, time, and quantity of any leakage collected in this system and removed must be documented in the operating log. (12/93)

(c) Drip pads must be maintained such that they remain free of cracks, gaps, corrosion, or other deterioration that could cause hazardous waste to be released from the drip pad.
Note: See 265.443(m) for remedial action required if deterioration or leakage is detected.

(d) The drip pad and associated collection system must be designed and operated to convey, drain, and collect liquid resulting from drippage or precipitation in order to prevent runoff.

(e) Unless protected by a structure, as described in 265.440(b) of this subpart, the owner or operator must design, construct, operate and maintain a runon control system capable of preventing flow onto the drip pad during peak discharge from at least a 24-hour, 25-year storm unless the system has sufficient excess capacity to contain any runon that might enter the system, or the drip pad is protected by a structure or cover, as described in 265.440(b) of this subpart.

(f) Unless protected by a structure or cover, as described in 265.440(b) of this subpart, the owner or operator must design, construct, operate and maintain a runoff management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(g) The drip pad must be evaluated to determine that it meets the requirements of paragraphs (a) through (f) of this section and the owner or operator must obtain a statement from a qualified Professional Engineer certifying that the drip pad design meets the requirements of this section. (6/08)

(h) Drippage and accumulated precipitation must be removed from the associated collection system as necessary to prevent overflow onto the drip pad.

(i) The drip pad surface must be cleaned thoroughly in a manner and frequency such that accumulated residues of hazardous waste or other materials are removed, with residues being properly managed as hazardous waste, so as to allow weekly inspections of the entire drip pad surface without interference or hindrance from accumulated residues of hazardous waste or other materials on the drip pad. The owner or operator must document the date and time of each cleaning and the cleaning procedure used in the facility's operating log. (12/93)

(j) Drip pads must be operated and maintained in a manner to minimize tracking of hazardous waste or hazardous waste constituents off the drip pad as a result of activities by personnel or equipment.

(k) After being removed from the treatment vessel, treated wood from pressure and nonpressure processes must be held on the drip pad until drippage has ceased. The owner or operator must maintain records sufficient

to document that all treated wood is held on the pad following treatment in accordance with this requirement.

(l) Collection and holding units associated with runon and runoff control systems must be emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system.

(m) Throughout the active life of the drip pad, if the owner or operator detects a condition that may have caused or has caused a release of hazardous waste, the condition must be repaired within a reasonably prompt period of time following discovery, in accordance with the following procedures:

(1) Upon detection of a condition that may have caused or has caused a release of hazardous waste (e.g., upon detection of leakage by the leak detection system), the owner or operator must:

(i) Enter a record of the discovery in the facility operating log;

(ii) Immediately remove the portion of the drip pad affected by the condition from service;

(iii) Determine what steps must be taken to repair the drip pad, remove any leakage from below the drip pad, and establish a schedule for accomplishing the clean up and repairs;

(iv) Within 24 hours after discovery of the condition, notify the Department of the condition and, within 10 working days, provide a written notice to the Department with a description of the steps that will be taken to repair the drip pad, and clean up any leakage, and the schedule for accomplishing this work.

(2) The Department will review the information submitted, make a determination regarding whether the pad must be removed from service completely or partially until repairs and clean up are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(3) Upon completing all repairs and clean up, the owner or operator must notify the Department in writing and provide a certification, signed by an independent qualified, registered professional engineer, that the repairs and clean up have been completed according to the written plan submitted in accordance with paragraph (m)(1)(iv) of this section.

(n) The owner or operator must maintain, as part of the facility operating log, documentation of past operating and waste handling practices. This must include identification of preservative formulations used in the past, a description of drippage management practices, and a description of treated wood storage and handling practices.

265.444 Inspections

(a) During construction or installation, liners and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation, liners must be inspected and certified as meeting the requirements of 265.443 by a qualified Professional Engineer. This certification must be maintained at the facility as part of the facility operating record. After installation, liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters. (6/08)

(b) While a drip pad is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions or improper operation of runon and runoff control systems;

(2) The presence of leakage in and proper functioning of leakage detection system.

(3) Deterioration or cracking of the drip pad surface.

Note: See 265.443(m) for remedial action required if deterioration or leakage is detected.

265.445 Closure

(a) At closure, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (pad, liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leakage, and manage them as hazardous waste.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practically removed or decontaminated, he must close the facility and perform postclosure care in accordance with closure and postclosure care requirements that apply to landfills (265.310). For permitted units, the requirement to have a permit continues throughout the postclosure period.

(c) (1) The owner or operator of an existing drip pad, as defined in 265.440 of this subpart, that does not comply with the liner requirements of 265.443(b)(1) must:

(i) Include in the closure plan for the drip pad under 265.112 both a plan for complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) Prepare a contingent postclosure plan under 265.118 of this part for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under 265.112 and 265.144 of this part for closure and postclosure care of a drip pad subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent postclosure plan, but are not required to include the cost of expected closure under paragraph (a) of this section.

Subparts X-Z [Reserved]

Subpart AA - AIR EMISSION STANDARDS FOR PROCESS VENTS

265.1030 Applicability

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in 265.1). (12/92)

(b) Except for 265.1034, paragraphs (d) and (e), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in one of the following: (9/98)

(1) A unit that is subject to the permitting requirements of part 270, or (9/98)

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of part 270, or (9/98)

(3) A unit that is exempt from permitting under the provisions of 262.34(a) (i.e., a 90-day tank or container) and is not a recycling unit under the requirements of 261.6. (9/98, 11/99)

Note: The requirements of 265.1032 through 265.1036 apply to process vents on hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under 261.4 and 265.1(c) are not affected by these requirements.

(c) [Reserved (11/99)]

(d) The requirements of this subpart do not apply to the process vents at a facility where the facility owner or operator certifies that all of the process vents that would otherwise be subject to this subpart are equipped with and operating air emission controls in accordance with the process vent requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. The documentation of compliance under regulations at 40 CFR part 60, part 61, or part 63 shall be kept with, or made readily available with, the facility operating record. (11/99)

265.1031 Definitions

As used in this subpart, all terms shall have the meaning given them in 264.1031, the Act, and parts 260-266.

265.1032 Standards: Process vents

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thinfilm evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section, the closed-vent system and control device must meet the requirements of 265.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of 265.1034(c).

(d) When an owner or operator and the Department do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in 265.1034(c) shall be used to resolve the disagreement.

265.1033 Standards: Closed-vent systems and control devices

(a) (1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) (i) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the requirements of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subpart for installation and startup. (9/98, 11/99; 8/00)

(ii) Any unit that begins operation after December 21, 1990, and is subject to the requirements of this subpart when operation begins, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 30-month implementation schedule does not apply. (11/99)

(iii) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subpart shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subpart cannot be installed and begin operation by the effective date of the

amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subpart. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility. (11/99)

(iv) Owners and operators of facilities and units that become newly subject to the requirements of this subpart after December 8, 1997, due to an action other than those described in paragraph (a)(2)(iii) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply). (11/99)

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of 265.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 EC. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d) (1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4) (i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, of less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section, and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted. air-assisted, or nonassisted.

(e) (1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^{n} C_i H_i \right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 EC and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 EC;

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 EC;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in 260.11); and

H_i = Net heat of combustion of sample component i, kcal/g mol at 25 EC and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by

Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$Log_{10}(V_{max})=(H_T+28.8)/31.7$$

where:

H_T = The net heating value as determined in paragraph (e)(2) of this section.

28.8 =Constant,

31.7 =Constant.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084 (H_T)$$

where:

8.706 = Constant.

0.7084 = Constant.

H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturers specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturers specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC. whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ∀1 percent of the temperature being monitored in EC or ∀0.5 EC, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature with an accuracy of ∀1 percent of the temperature being monitored in degrees Celsius (^oC) or ∀0.5^oC, whichever is greater. The temperature sensor shall be installed at a location in the exhaust vent stream from the condenser exit (i.e., product side). (9/98)

(vii) For a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f) (1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of 265.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption

system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of 265.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of 265.1035(b)(4)(iii)(G).

(i) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(j) A closed-vent system shall meet either of the following design requirements: (9/98)

(1) A closed-vent system shall be designed to operate with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background as determined by the procedure in 265.1034(b) of this subpart, and by visual inspections; or (9/98)

(2) A closed-vent system shall be designed to operate at a pressure below atmospheric pressure. The system shall be equipped with at least one pressure gauge or other pressure measurement device that can be read from a readily accessible location to verify that negative pressure is being maintained in the closed-vent system when the control device is operating. (9/98)

(k) The owner or operator shall monitor and inspect each closed-vent system required to comply with this section to ensure proper operation and maintenance of the closed-vent system by implementing the following requirements: (9/98)

(1) Each closed-vent system that is used to comply with paragraph (j)(1) of this section shall be inspected and monitored in accordance with the following requirements: (9/98)

(i) An initial leak detection monitoring of the closed-vent system shall be conducted by the owner or operator on or before the date that the system becomes subject to this section. The owner or operator shall monitor the closed-vent system components and connections using the procedures specified in 265.1034(b) of this subpart to demonstrate that the closed-vent system operates with no detectable emissions, as indicated by an instrument reading of less than 500 ppmv above background. (9/98)

(ii) After initial leak detection monitoring required in paragraph (k)(1)(i) of this section, the owner or operator shall inspect and monitor the closed-vent system as follows: (9/98)

(A) Closed-vent system joints, seams, or other connections that are permanently or semi-permanently sealed (e.g., a welded joint between two sections of hard piping or a bolted and gasketed ducting flange) shall be visually inspected at least once per year to check for defects that could result in air pollutant emissions. The owner or operator shall monitor a component or connection using the procedures specified in 265.1034(b) of this subpart to demonstrate that it operates with no detectable emissions following any time the component is repaired or replaced (e.g., a section of damaged hard piping is replaced with new hard piping) or the connection is unsealed (e.g., a flange is unbolted). (9/98)

(B) Closed-vent system components or connections other than those specified in paragraph (k)(1)(ii)(A) of this section shall be monitored annually and at other times as requested by the Department, except as provided for in paragraph (n) of this section, using the procedures specified in 265.1034(b) of this subpart to demonstrate that the components or connections operate with no detectable emissions. (9/98)

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect or leak in accordance with the requirements of paragraph (k)(3) of this section. (9/98)

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance with the requirements specified in 265.1035 of this subpart. (9/98)

(2) Each closed-vent system that is used to comply with paragraph (j)(2) of this section shall be inspected and monitored in accordance with the following requirements: (9/98)

(i) The closed-vent system shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in ductwork or piping or loose connections. (9/98)

(ii) The owner or operator shall perform an initial inspection of the closed-vent system on or before the date that the system becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year. (9/98)

(iii) In the event that a defect or leak is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k)(3) of this section. (9/98)

(iv) The owner or operator shall maintain a record of the inspection and monitoring in accordance

with the requirements specified in 265.1035 of this subpart. (9/98)

(3) The owner or operator shall repair all detected defects as follows: (9/98)

(i) Detectable emissions, as indicated by visual inspection, or by an instrument reading greater than 500 ppmv above background, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected, except as provided for in paragraph (k)(3)(iii) of this section. (9/98)

(ii) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected. (9/98)

(iii) Delay of repair of a closed-vent system for which leaks have been detected is allowed if the repair is technically infeasible without a process unit shutdown, or if the owner or operator determines that emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair. Repair of such equipment shall be completed by the end of the next process unit shutdown. (9/98)

(iv) The owner or operator shall maintain a record of the defect repair in accordance with the requirements specified in 265.1035 of this subpart. (9/98)

(l) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them. (9/98)

(m) The owner or operator using a carbon adsorption system to control air pollutant emissions shall document that all carbon that is a hazardous waste and that is removed from the control device is managed in one of the following manners, regardless of the average volatile organic concentration of the carbon: (9/98)

(1) Regenerated or reactivated in a thermal treatment unit that meets one of the following: (9/98)

(i) The owner or operator of the unit has been issued a final permit under part 270 which implements the requirements of part 264 subpart X; or (9/98)

(ii) The unit is equipped with and operating air emission controls in accordance with the applicable requirements of subparts AA and CC of either this part or of part 264; or (9/98)

(iii) The unit is equipped with and operating air emission controls in accordance with a national emission standard for hazardous air pollutants under 40 CFR part 61 or 40 CFR part 63. (9/98)

(2) Incinerated in a hazardous waste incinerator for which the owner or operator either: (9/98)

(i) Has been issued a final permit under part 270 which implements the requirements of part 264, subpart O; or (9/98)

(ii) Has designed and operates the incinerator in accordance with the interim status requirements of subpart O of this part. (9/98)

(3) Burned in a boiler or industrial furnace for which the owner or operator either: (9/98)

(i) Has been issued a final permit under part 270 which implements the requirements of part 266, subpart H; or (9/98)

(ii) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of part 266, subpart H. (9/98)

(n) Any components of a closed-vent system that are designated, as described in 265.1035(c)(9) of this subpart, as unsafe to monitor are exempt from the requirements of paragraph (k)(1)(ii)(B) of this section if: (9/98)

(1) The owner or operator of the closed-vent system determines that the components of the closed-vent system are unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (k)(1)(ii)(B) of this section; and (9/98)

(2) The owner or operator of the closed-vent system adheres to a written plan that requires monitoring the closed-vent system components using the procedure specified in paragraph (k)(1)(ii)(B) of this section as frequently as practicable during safe-to-monitor times. (9/98)

265.1034 Test methods and procedures

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in 265.1033(k) of this subpart, the test shall comply with the following requirements: (9/98)

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with 265.1032(a) and with the total organic compound concentration limit of 265.1033(c) shall comply with the

following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 for organic content.

(iii) Each performance test shall consist of three separate runs; each run conducted for at least 1 hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs shall apply. The average shall be computed on a time-weighted basis.

(iv) Total organic mass flow rates shall be determined by the following equation:

$$E_h = Q_{sd} \left[\sum_{i=1}^{n} C_i MW_i \right] [0.0416] \; [10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h;
Q_{sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;
n = Number of organic compounds in the vent gas;
C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;
MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;
0.0416 = Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);
10^{-6} = Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$$E_A = (E_h)\,(H)$$

where:
E_A = Total organic mass emission rate, kg/y;
E_h = Total organic mass flow rate for the process vent, kg/h;
H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h, as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operators control, compliance may, upon the Department's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8260 of SW-846 (incorporated by reference under 260.11). (9/98)

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) For continuously generated waste, annually; or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Department do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8260 of SW-846 (incorporated by reference under 260.11) may be used to resolve the dispute. (9/98)

265.1035 Recordkeeping requirements

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of 265.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in 265.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan); and

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturers name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control device.

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with 265.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records, including the dates, of each compliance test required by 265.1033(j).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of APTI Course 415: Control of Gaseous Emissions (incorporated by reference as specified in 260.11) or other engineering texts acceptable to the Department that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in 265.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of 265.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter,

description of monitoring device, and diagram of monitoring sensor location or locations used to comply with 265.1033(f)(1) and (f)(2).

(3) Monitoring, operating and inspection information required by paragraphs (f) through (k) of 265.1033 of this subpart. (9/98)

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760EC, period when the combustion temperature is below 760EC.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28EC below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28EC below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section; or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28EC below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section; or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with 265.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with 265.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 EC above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 EC above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with 265.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with 265.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (c)(4) of this section of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For carbon adsorption systems operated subject to requirements specified in 265.1033(g) or 265.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For carbon adsorption systems operated subject to requirements specified in 265.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(9) An owner or operator designating any components of a closed-vent system as unsafe to monitor pursuant to 265.1033(n) of this subpart shall record in a log that is kept in the facility operating record the identification of closed-vent system components that are designated as unsafe to monitor in accordance with the requirements of 265.1033(n) of this subpart, an explanation for each closed-vent system component stating why the closed-vent system component is unsafe to monitor, and the plan for monitoring each closed-vent system component. (9/98)

(10) When each leak is detected as specified in 265.1033(k) of this subpart, the following information shall be recorded: (9/98)

(i) The instrument identification number, the closed-vent system component identification number,

and the operator name, initials, or identification number.

(ii) The date the leak was detected and the date of first attempt to repair the leak.

(iii) The date of successful repair of the leak.

(iv) Maximum instrument reading measured by Method 21 of 40 CFR part 60, Appendix A after it is successfully repaired or determined to be nonrepairable.

(v) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(A) The owner or operator may develop a written procedure that identifies the conditions that justify a delay of repair. In such cases, reasons for delay of repair may be documented by citing the relevant sections of the written procedure.

(B) If delay of repair was caused by depletion of stocked parts, there must be documentation that the spare parts were sufficiently stocked on-site before depletion and the reason for depletion.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(10) of this section shall be maintained by the owner or operator for at least 3 years following the date of each occurrence, measurement, maintenance, corrective action, or record. (9/98)

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in 265.1032 including supporting documentation as required by 265.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

265.1036 - 265.1049 Reserved]

Subpart BB - AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

265.1050 Applicability

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in 265.1). (12/92)

(b) Except as provided in 265.1064(k), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in one of the following: (9/98)

(1) Units that are subject to the permitting requirements of part 270, or

(2) A unit (including a hazardous waste recycling unit) that is not exempt from permitting under the provisions of 262.34(a) (i.e., a hazardous waste recycling unit that is not a 90-day tank or container) and that is located at a hazardous waste management facility otherwise subject to the permitting requirements of part 270, or (9/98)

(3) A unit that is exempt from permitting under the provisions of 262.34(a) (i.e., a "90-day" tank or container) and is not a recycling unit under the provisions of 261.6. (9/98, 11/99)

(c) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(d) Equipment that is in vacuum service is excluded from the requirements of 265.1052 to 265.1060 if it is identified as required in 265.1064(g)(5).

(e) Equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for less than 300 hours per calendar year is excluded from the requirements of 265.1052 through 265.1060 of this subpart if it is identified as required in 265.1064(g)(6) of this subpart. (9/98)

(f)[Reserved]

*(g)*Purged coatings and solvents from surface coating operations subject to the national emission standards for hazardous air pollutants (NESHAP) for the surface coating of automobiles and light-duty trucks at 40 CFR part 63, subpart IIII, are not subject to the requirements of this subpart. (6/06)

[Note: The requirements of 265.1052 through 265.1064 apply to equipment associated with hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under 261.4, and 265.1(c) are not affected by these requirements.]

265.1051 Definitions

As used in this subpart, all terms shall have the meaning given them in 264.1031, the Act, and parts 260 - 266.

265.1052 Standards: Pumps in light liquid service

(a) (1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in 265.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b) (1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal

system that includes a barrier fluid system is exempt from the requirements of paragraph (a), provided the following requirements are met:

(1) Each dual mechanical seal system must be:

(i) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure, or

(ii) Equipped with a barrier fluid degassing reservoir that is connected by a closed-vent system to a control device that complies with the requirements of 265.1060, or

(iii) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

(2) The barrier fluid system must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(3) Each barrier fluid system must be equipped with a sensor that will detect failure of the seal system, the barrier fluid system or both.

(4) Each pump must be checked by visual inspection, each calendar week, for indications of liquids dripping from the pump seals.

(5) (i) Each sensor as described in paragraph (d)(3) of this section must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6) (i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 265.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in 265.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Department.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of 265.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

265.1053 Standards: Compressors

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of 265.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e) (1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of 265.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in 265.1064(g)(2), for no detectable emission as indicated

by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 265.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Department.

265.1054 Standards: Pressure relief devices in gas/vapor service

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 265.1063(c).

(b) (1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in 265.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in 265.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in 265.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

265.1055 Standards: Sampling connecting systems

(a) Each sampling connection system shall be equipped with a closed-purge, closed-loop, or closed-vent system. This system shall collect the sample purge for return to the process or for routing to the appropriate treatment system. Gases displaced during filling of the sample container are not required to be collected or captured. (9/98)

(b) Each closed-purge, closed-loop, or closed-vent system as required in paragraph (a) of this section shall: (9/98)

(1) Return the purged process fluid directly to the process line ; or (9/98)

(2) Collect and recycle the purged process fluid; or (9/98)

(3) Be designed and operated to capture and transport all the purged process fluid to a waste management unit that complies with the applicable requirements of 265.1085 through 265.1087 of this subpart or a control device that complies with the requirements of 265.1060 of this subpart. (9/98)

(c) In-situ sampling systems and sampling systems without purges are exempt from the requirements of paragraphs (a) and (b) of this section. (9/98)

265.1056 Standards: Open ended valves or lines

(a) (1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

265.1057 Standards: Valves in gas/vapor service or in light liquid service

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in 265.1063(b) and shall comply with paragraphs (b) through (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section and 265.1061 and 265.1062.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

(2) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.

(d) (1) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in 265.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the hazardous waste stream.

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in 265.1063(c).

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Department.

(g) Any valve that is designated, as described in 265.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in 265.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

265.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in 265.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c) (1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in 265.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under 265.1057(e).

(e) Any connector that is inaccessible or is ceramic or ceramic-lined (e.g., porcelain, glass, or glass-lined) is exempt from the monitoring requirements of paragraph (a) of this section and from the Record keeping requirements of 265.1064 of this subpart. (9/98)

265.1059 Standards: Delay of repair

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with 265.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

265.1060 Standards: Closed-vent systems and control devices

(a) Owners and operators of closed-vent systems and control devices subject to this subpart shall comply with the provisions of 265.1033 of this part. (11/99)

(b) (1) The owner or operator of an existing facility who can not install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 30 months after the effective date that the facility becomes subject to this subpart for installation and startup. (11/99)

(2) Any units that begin operation after December 21, 1990, and are subject to the provisions of this subpart when operation begins, must comply with the rules immediately (i.e., must have control devices installed

and operating on startup of the affected unit); the 30-month implementation schedule does not apply. (11/99)

(3) The owner or operator of any facility in existence on the effective date of a statutory or EPA regulatory amendment that renders the facility subject to this subpart shall comply with all requirements of this subpart as soon as practicable but no later than 30 months after the amendment's effective date. When control equipment required by this subpart can not be installed and begin operation by the effective date of the amendment, the facility owner or operator shall prepare an implementation schedule that includes the following information: Specific calendar dates for award of contracts or issuance of purchase orders for the control equipment, initiation of on-site installation of the control equipment, completion of the control equipment installation, and performance of any testing to demonstrate that the installed equipment meets the applicable standards of this subpart. The owner or operator shall enter the implementation schedule in the operating record or in a permanent, readily available file located at the facility. (11/99)

(4) Owners and operators of facilities and units that become newly subject to the requirements of this subpart after December 8, 1997 due to an action other than those described in paragraph (b)(3) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply). (11/99)

265.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak

(a) An owner or operator subject to the requirements of 265.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Department.

(2) If a valve leak is detected, it shall be repaired in accordance with 265.1057 (d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in 265.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in 265.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in 265.1057 for which leaks are detected by the total number of valves subject to the requirements in 265.1057 within the hazardous waste management unit.

265.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair

(a) An owner or operator subject to the requirements of 265.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b) (2) and (3) of this section.

(b) (1) An owner or operator shall comply with the requirements for valves, as described in 265.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip one of the quarterly leak detection periods (i.e., monitor for leaks once every six months) for the valves subject to the requirements in 265.1057 of this subpart. (11/99)

(3) After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than 2 percent, an owner or operator may begin to skip three of the quarterly leak detection periods (i.e., monitor for leaks once every year) for the valves subject to the requirements in 265.1057 of this subpart. (11/99)

(4) If the percentage of valves leaking is greater than 2 percent, the owner or operator shall monitor monthly in compliance with the requirements in 265.1057, but may again elect to use this section after meeting the requirements of 265.1057(c)(1).

265.1063 Test methods and procedures

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) Leak detection monitoring, as required in 265.1052 - 265.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around

all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by 265.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-88, E 260-85 (incorporated by reference under 260.11);

(2) Method 9060 or 8260 of SW-846 (incorporated by reference under 260.11); or (9/98)

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of 265.1034 (c)(1) through (c)(4).

265.1064 Recordkeeping requirements

(a) (1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 265 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g., a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., monthly leak detection and repair or equipped with dual mechanical seals).

(2) For facilities that comply with the provisions of 265.1033(a)(2), an implementation schedule as specified in 265.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in 265.1035(b)(3).

(4) Documentation of compliance with 265.1060, including the detailed design documentation or performance test results specified in 265.1035(b)(4).

(c) When each leak is detected as specified in 265.1052, 265.1053, 265.1057, and 265.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with 265.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in 265.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in 265.1052, 265.1053, 265.1057, and 265.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with 265.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) Above 10,000 if the maximum instrument reading measured by the methods specified in 265.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) Repair delayed and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with 265.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of 265.1060 shall be recorded and kept up to date in the facility operating record as specified in 265.1035(c). Design documentation is specified in 265.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in 265.1035 (c)(3) - (c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(g) The following information pertaining to all equipment subject to the requirements in 265.1052 through 265.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2) (i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of 265.1052(e), 265.1053(i), and 265.1057(f).

(ii) The designation of this equipment as subject to the requirements of 265.1052(e), 265.1053(i), or 265.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with 265.1054(a).

(4) (i) The dates of each compliance test required in 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(6) Identification, either by list or location (area or group) of equipment that contains or contacts hazardous waste with an organic concentration of at least 10 percent by weight for a period of less than 300 hours per year. (9/98)

(h) The following information pertaining to all valves subject to the requirements of 265.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with 265.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in 265.1052(d)(5)(ii) and 265.1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in 265.1052 through 265.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up to date analysis and the supporting

information and data used to determine whether or not equipment is subject to the requirements in 265.1052 through 265.1060. The record shall include supporting documentation as required by 265.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in 265.1052 through 265.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The owner or operator of any facility with equipment that is subject to this subpart and to leak detection, monitoring, and repair requirements under regulations at 40 CFR part 60, part 61, or part 63 may elect to determine compliance with this subpart either by documentation pursuant to 265.1064 of this subpart, or by documentation of compliance with the regulations at 40 CFR part 60, part 61, or part 63 pursuant to the relevant provisions of the regulations at 40 part 60, part 61, or part 63. The documentation of compliance under regulation at 40 CFR part 60, part 61, or part 63 shall be kept with or made readily available with the facility operating record. (11/99; 8/00)

265.1065 - 265.1079 [Reserved]

Subpart CC - AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS

265.1080 Applicability

(a) The requirements of this subpart apply to owners and operators of all facilities that treat, store, or dispose of hazardous waste in tanks, surface impoundments, or containers subject to either subpart I, J, or K of this part except as 265.1 and paragraph (b) of this section provide otherwise. (9/98)

(b) The requirements of this subpart do not apply to the following waste management units at the facility:

(1) A waste management unit that holds hazardous waste placed in the unit before December 6, 1996, and in which no hazardous waste is added to the unit on or after December 6, 1996 (11/99).

(2) A container that has a design capacity less than or equal to 0.1 m^3.

(3) A tank in which an owner or operator has stopped adding hazardous waste and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(4) A surface impoundment in which an owner or operator has stopped adding hazardous waste (except to implement an approved closure plan) and the owner or operator has begun implementing or completed closure pursuant to an approved closure plan.

(5) A waste management unit that is used solely for on-site treatment or storage of hazardous waste that is placed in the unit as a result of implementing remedial activities required under the corrective action authorities of RCRA sections 3004(u), 3004(v), or 3008(h), CERCLA authorities, or similar Federal or State authorities. (9/01)

(6) A waste management unit that is used solely for the management of radioactive mixed waste in accordance with all applicable regulations under the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

(7) A hazardous waste management unit that the owner or operator certifies is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63. For the purpose of complying with this paragraph, a tank for which the air emission control includes an enclosure, as opposed to a cover, must be in compliance with the enclosure and control device requirements of 265.1085(i), except as provided in 265.1083(c)(5).

(8) A tank that has a process vent as defined in 264.1031.

(c) For the owner and operator of a facility subject to this subpart who has received a final permit under RCRA section 3005 prior to December 6, 1996, the following requirements apply:

(1) The requirements of part 264, subpart CC shall be incorporated into the permit when the permit is reissued in accordance with the requirements of 124.15 or reviewed in accordance with the requirements of 270.50(d).

(2) Until the date when the permit is reissued in accordance with the requirements of 124.15 or reviewed in accordance with the requirements of 270.50(d), the owner and operator is subject to the requirements of this subpart.

(d) The requirements of this subpart, except for the recordkeeping requirements specified in 265.1090(i) of this subpart, are administratively stayed for a tank or a container used for the management of hazardous waste generated by organic peroxide manufacturing and its associated laboratory operations when the owner or operator of the unit meets all of the following conditions:

(1) The owner or operator identifies that the tank or container receives hazardous waste generated by an organic peroxide manufacturing process producing more than one functional family of organic peroxides or multiple organic peroxides within one functional family, that one or more of these organic peroxides could potentially undergo self-accelerating thermal decomposition at or below ambient temperatures, and that organic peroxides are the predominant products

manufactured by the process. For the purpose of meeting the conditions of this paragraph, "organic peroxide" means an organic compound that contains the bivalent -O-O- structure and which may be considered to be a structural derivative of hydrogen peroxide where one or both of the hydrogen atoms has been replaced by an organic radical.

(2) The owner or operator prepares documentation, in accordance with the requirements of 265.1090(i) of this subpart, explaining why an undue safety hazard would be created if air emission controls specified in 265.1085 through 265.1088 of this subpart are installed and operated on the tanks and containers used at the facility to manage the hazardous waste generated by the organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section.

(3) The owner or operator notifies the Department in writing that hazardous waste generated by an organic peroxide manufacturing process or processes meeting the conditions of paragraph (d)(1) of this section are managed at the facility in tanks or containers meeting the conditions of paragraph (d)(2) of this section. The notification shall state the name and address of the facility, and be signed and dated by an authorized representative of the facility owner or operator.

(e) [Reserved 11/99]

265.1081 Definitions

As used in this subpart, all terms not defined herein shall have the meaning given to them in the Act and parts 260 through 266 of this chapter.

"Average volatile organic concentration" or "average VO concentration" means the mass-weighted average volatile organic concentration of a hazardous waste as determined in accordance with the requirements of 265.1084 of this subpart.

"Closure device" means a cap, hatch, lid, plug, seal, valve, or other type of fitting that blocks an opening in a cover such that when the device is secured in the closed position it prevents or reduces air pollutant emissions to the atmosphere. Closure devices include devices that are detachable from the cover (e.g., a sampling port cap), manually operated (e.g., a hinged access lid or hatch), or automatically operated (e.g., a spring-loaded pressure relief valve).

"Continuous seal" means a seal that forms a continuous closure that completely covers the space between the edge of the floating roof and the wall of a tank. A continuous seal may be a vapor-mounted seal, liquid-mounted seal, or metallic shoe seal. A continuous seal may be constructed of fastened segments so as to form a continuous seal.

"Cover" means a device that provides a continuous barrier over the hazardous waste managed in a unit to prevent or reduce air pollutant emissions to the atmosphere. A cover may have openings (such as access hatches, sampling ports, gauge wells) that are necessary for operation, inspection, maintenance, and repair of the unit on which the cover is used. A cover may be a separate piece of equipment which can be detached and removed from the unit or a cover may be formed by structural features permanently integrated into the design of the unit.

"Enclosure" means a structure that surrounds a tank or container, captures organic vapors emitted from the tank or container, and vents the captured vapors through a closed-vent system to a control device.

"External floating roof" means a pontoon-type or double-deck type cover that rests on the surface of the material managed in a tank with no fixed roof.

"Fixed roof" means a cover that is mounted on a unit in a stationary position and does not move with fluctuations in the level of the material managed in the unit.

"Floating membrane cover" means a cover consisting of a synthetic flexible membrane material that rests upon and is supported by the hazardous waste being managed in a surface impoundment.

"Floating roof" means a cover consisting of a double deck, pontoon single deck, or internal floating cover which rests upon and is supported by the material being contained, and is equipped with a continuous seal.

"Hard-piping" means pipe or tubing that is manufactured and properly installed in accordance with relevant standards and good engineering practices.

"In light material service" means the container is used to manage a material for which both of the following conditions apply: the vapor pressure of one or more of the organic constituents in the material is greater than 0.3 kilopascals (kPa) at 20°C; and the total concentration of the pure organic constituents having a vapor pressure greater than 0.3 kPa at 20°C is equal to or greater than 20 percent by weight.

"Internal floating roof" means a cover that rests or floats on the material surface (but not necessarily in complete contact with it) inside a tank that has a fixed roof.

"Liquid-mounted seal" means a foam or liquid-filled primary seal mounted in contact with the hazardous waste between the tank wall and the floating roof continuously around the circumference of the tank.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

"Maximum organic vapor pressure" means the sum of the individual organic constituent partial pressures exerted by the material contained in a tank, at the maximum vapor pressure-causing conditions (i.e., temperature, agitation, pH effects of combining wastes, etc.) reasonably expected to occur in the tank. For the purpose of this subpart, maximum organic vapor pressure is determined using the procedures specified in 265.1084(c) of this subpart.

"Metallic shoe seal" means a continuous seal that is

constructed of metal sheets which are held vertically against the wall of the tank by springs, weighted levers, or other mechanisms and is connected to the floating roof by braces or other means. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.

"No detectable organic emissions" means no escape of organics to the atmosphere as determined using the procedure specified in 265.1084(d) of this subpart.

"Point of waste origination" means as follows:

(1) When the facility owner or operator is the generator of the hazardous waste, the point of waste origination means the point where a solid waste produced by a system, process, or waste management unit is determined to be a hazardous waste as defined in part 261.

[Note: In this case, this term is being used in a manner similar to the use of the term "point of generation" in air standards established for waste management operations under authority of the Clean Air Act in 40 CFR parts 60, 61, and 63.]

(2) When the facility owner and operator are not the generator of the hazardous waste, point of waste origination means the point where the owner or operator accepts delivery or takes possession of the hazardous waste.

"Point of waste treatment" means the point where a hazardous waste to be treated in accordance with 265.1083(c)(2) of this subpart exits the treatment process. Any waste determination shall be made before the waste is conveyed, handled, or otherwise managed in a manner that allows the waste to volatilize to the atmosphere.

"Safety device" means a closure device such as a pressure relief valve, frangible disc, fusible plug, or any other type of device which functions exclusively to prevent physical damage or permanent deformation to a unit or its air emission control equipment by venting gases or vapors directly to the atmosphere during unsafe conditions resulting from an unplanned, accidental, or emergency event. For the purpose of this subpart, a safety device is not used for routine venting of gases or vapors from the vapor headspace underneath a cover such as during filling of the unit or to adjust the pressure in this vapor headspace in response to normal daily diurnal ambient temperature fluctuations. A safety device is designed to remain in a closed position during normal operations and open only when the internal pressure, or another relevant parameter, exceeds the device threshold setting applicable to the air emission control equipment as determined by the owner or operator based on manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials.

"Single-seal system" means a floating roof having one continuous seal. This seal may be vapor-mounted, liquid-mounted, or a metallic shoe seal.

"Vapor-mounted seal" means a continuous seal that is mounted such that there is a vapor space between the hazardous waste in the unit and the bottom of the seal.

"Volatile organic concentration" or "VO concentration" means the fraction by weight of the volatile organic compounds contained in a hazardous waste expressed in terms of parts per million (ppmw) as determined by direct measurement or by knowledge of the waste in accordance with the requirements of 265.1084 of this subpart. For the purpose of determining the VO concentration of a hazardous waste, organic compounds with a Henry's law constant value of at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in the liquid-phase (0.1 Y/X) (which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3) at 25 degrees Celsius must be included. Appendix VI of this subpart presents a list of compounds known to have a Henry's law constant value less than the cutoff level.

"Waste determination" means performing all applicable procedures in accordance with the requirements of 265.1084 of this subpart to determine whether a hazardous waste meets standards specified in this subpart. Examples of a waste determination include performing the procedures in accordance with the requirements of 265.1084 of this subpart to determine the average VO concentration of a hazardous waste at the point of waste origination; the average VO concentration of a hazardous waste at the point of waste treatment and comparing the results to the exit concentration limit specified for the process used to treat the hazardous waste; the organic reduction efficiency and the organic biodegradation efficiency for a biological process used to treat a hazardous waste and comparing the results to the applicable standards; or the maximum volatile organic vapor pressure for a hazardous waste in a tank and comparing the results to the applicable standards.

"Waste stabilization process" means any physical or chemical process used to either reduce the mobility of hazardous constituents in a hazardous waste or eliminate free liquids as determined by Test Method 9095 (Paint Filter Liquids Test) in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, Third Edition, September 1986, as amended by Update I, November 15, 1992 (incorporated by reference-refer to 260.11 of this chapter). A waste stabilization process includes mixing the hazardous waste with binders or other materials, and curing the resulting hazardous waste and binder mixture. Other synonymous terms used to refer to this process are "waste fixation" or "waste solidification." This does not include the adding of absorbent materials to the surface of a waste, without mixing, agitation, or subsequent curing, to absorb free liquid.

265.1082 Schedule for implementation of air emission standards

(a) Owners or operators of facilities existing on December 6, 1996, and subject to subparts I, J, and K of this part shall meet the following requirements: (11/99)

(1) Install and begin operation of all control equipment or waste management units required to comply with this subpart and complete modifications of production or treatment processes to satisfy exemption criteria in accordance with 265.1083(c) of this subpart by December 6, 1996, except as provided for in paragraph (a)(2) of this section. (11/99)

(2) When control equipment or waste management units required to comply with this subpart cannot be installed and in operation or modifications of production or treatment processes to satisfy exemption criteria in accordance with 265.1083(c) of this subpart cannot be completed by December 6, 1996, the owner or operator shall: (11/99)

(i) Install and begin operation of the control equipment and waste management units, and complete modifications of production or treatment processes as soon as possible but no later than December 8, 1997. (11/99)

(ii) Prepare an implementation schedule that includes the following information: specific calendar dates for award of contracts or issuance of purchase orders for control equipment, waste management units, and production or treatment process modifications; initiation of on-site installation of control equipment or waste management units, and modifications of production or treatment processes; completion of control equipment or waste management unit installation, and production or treatment process modifications; and performance of testing to demonstrate that the installed equipment or waste management units, and modified production or treatment processes meet the applicable standards of this subpart. (11/99)

(iii) For facilities subject to the recordkeeping requirements of 265.73 of this part, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than December 6, 1996. (11/99)

(iv) For facilities not subject to 265.73 of this part, the owner or operator shall enter the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility no later than December 6, 1996.(11/99)

(b) Owners or operators of facilities and units in existence on the effective date of a statutory or regulatory amendment that renders the facility subject to subparts I, J, or K of this part shall meet the following requirements: (11/99)

(1) Install and begin operation of control equipment or waste management units required to comply with this subpart, and complete modifications of production or treatment processes to satisfy exemption criteria of 265.1083(c) of this subpart by the effective date of the amendment, except as provided for in paragraph (b)(2) of this section.(11/99)

(2) When control equipment or waste management units required to comply with this subpart cannot be installed and begin operation, or when modifications of production or treatment processes to satisfy exemption criteria of 265.1083(c) of this subpart cannot be completed by the effective date of the amendment, the owner or operator shall:(11/99)

(i) Install and begin operation of the control equipment or waste management unit, and complete modification of production or treatment processes as soon as possible but no later than 30 months after the effective date of the amendment. (11/99)

(ii) For facilities subject to the recordkeeping requirements of 265.73, enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in the operating record no later than the effective date of the amendment, or

(iii) For facilities not subject to 265.73, the owner or operator shall enter and maintain the implementation schedule specified in paragraph (a)(2)(ii) of this section in a permanent, readily available file located at the facility site no later than the effective date of the amendment.

(c) Owners and operators of facilities and units that become newly subject to the requirements of this subpart after December 8, 1997 due to an action other than those described in paragraph (b) of this section must comply with all applicable requirements immediately (i.e., must have control devices installed and operating on the date the facility or unit becomes subject to this subpart; the 30-month implementation schedule does not apply). (11/99)

(d) The Department may elect to extend the implementation date for control equipment at a facility, on a case by case basis, to a date later than December 8, 1997, when special circumstances that are beyond the facility owner's or operator's control delay installation or operation of control equipment, and the owner or operator has made all reasonable and prudent attempts to comply with the requirements of this subpart. (11/99)

265.1083 Standards: General

(a) This section applies to the management of hazardous waste in tanks, surface impoundments, and containers subject to this subpart.

(b) The owner or operator shall control air pollutant emissions from each hazardous waste management unit in accordance with standards specified in 265.1085 through 265.1088 of this subpart, as applicable to the hazardous waste management unit, except as provided for in paragraph (c) of this section.(11/99)

(c) A tank, surface impoundment, or container is exempt from standards specified in 265.1085 through 265.1088 of this subpart, as applicable, provided that the

waste management unit is one of the following:

(1) A tank, surface impoundment, or container for which all hazardous waste entering the unit has an average VO concentration at the point of waste origination of less than 500 parts per million by weight (ppmw). The average VO concentration shall be determined using the procedures specified in 265.1084(a) of this subpart. The owner or operator shall review and update, as necessary, this determination at least once every 12 months following the date of the initial determination for the hazardous waste streams entering the unit.

(2) A tank, surface impoundment, or container for which the organic content of all the hazardous waste entering the waste management unit has been reduced by an organic destruction or removal process that achieves any one of the following conditions:

(i) A process that removes or destroys the organics contained in the hazardous waste to a level such that the average VO concentration of the hazardous waste at the point of waste treatment is less than the exit concentration limit (C_t) established for the process. The average VO concentration of the hazardous waste at the point of waste treatment and the exit concentration limit for the process shall be determined using the procedures specified in 265.1084(b) of this subpart.

(ii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the average VO concentration of the hazardous waste at the point of waste treatment is less than 100 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in 265.1084(b) of this subpart.

(iii) A process that removes or destroys the organics contained in the hazardous waste to a level such that the actual organic mass removal rate (MR) for the process is equal to or greater than the required organic mass removal rate (RMR) established for the process. The required organic mass removal rate and the actual organic mass removal rate for the process shall be determined using the procedures specified in 265.1084(b) of this subpart.

(iv) A biological process that destroys or degrades the organics contained in the hazardous waste, such that either of the following conditions is met:

(A) The organic reduction efficiency (R) for the process is equal to or greater than 95 percent, and the organic biodegradation efficiency (R_{bio}) for the process is equal to or greater than 95 percent. The organic reduction efficiency and the organic biodegradation efficiency for the process shall be determined using the procedures specified in 265.1084(b) of this subpart.

(B) The total actual organic mass biodegradation rate (MR_{bio}) for all hazardous waste treated by the process is equal to or greater than the required organic mass removal rate (RMR). The required organic mass removal rate and the actual organic mass biodegradation rate for the process shall be determined using the procedures specified in 265.1084(b) of this subpart.

(v) A process that removes or destroys the organics contained in the hazardous waste and meets all of the following conditions:

(A) From the point of waste origination through the point where the hazardous waste enters the treatment process, the hazardous waste is managed continuously in waste management units which use air emission controls in accordance with the standards specified in 265.1085 through 265.1088 of this subpart, as applicable to the waste management unit.

(B) From the point of waste origination through the point where the hazardous waste enters the treatment process, any transfer of the hazardous waste is accomplished through continuous hard-piping or other closed system transfer that does not allow exposure of the waste to the atmosphere. The EPA considers a drain system that meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems to be a closed system.

(C) The average VO concentration of the hazardous waste at the point of waste treatment is less than the lowest average VO concentration at the point of waste origination determined for each of the individual waste streams entering the process or 500 ppmw, whichever value is lower. The average VO concentration of each individual waste stream at the point of waste origination shall be determined using the procedures specified in 265.1084(a) of this subpart. The average VO concentration of the hazardous waste at the point of waste treatment shall be determined using the procedures specified in 265.1084(b) of this subpart.

(vi) A process that removes or destroys the organics contained in the hazardous waste to a level such that the organic reduction efficiency (R) for the process is equal to or greater than 95 percent and the owner or operator certifies that the average VO concentration at the point of waste origination for each of the individual waste streams entering the process is less than 10,000 ppmw. The organic reduction efficiency for the process and the average VO concentration of the hazardous waste at the point of waste origination shall be determined using the procedures specified in 265.1084(b) and 265.1084(a) of this subpart, respectively.

(vii) A hazardous waste incinerator for which the owner or operator has either:

(A) Been issued a final permit under part 270 which implements the requirements of part 264, subpart O; or

(B) Has designed and operates the incinerator in accordance with the interim status requirements of subpart O of this part.

(viii) A boiler or industrial furnace for which the owner or operator has either:

(A) Been issued a final permit under part 270 which implements the requirements of part 266, subpart H, or

(B) Has designed and operates the boiler or industrial furnace in accordance with the interim status requirements of part 266, subpart H.

(ix) For the purpose of determining the performance of an organic destruction or removal process in accordance with the conditions in each of paragraphs (c)(2)(i) through (c)(2)(vi) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration:

(A) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, Appendix A, or a value of 25 ppmw, whichever is less. (11/99)

(B) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant value at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25 degrees Celsius. (11/99)

(3) A tank or surface impoundment used for biological treatment of hazardous waste in accordance with the requirements of paragraph (c)(2)(iv) of this section. (11/99)

(4) A tank, surface impoundment, or container for which all hazardous waste placed in the unit either:

(i) Meets the numerical concentration limits for organic hazardous constituents, applicable to the hazardous waste, as specified in part 268-Land Disposal Restrictions under Table "Treatment Standards for Hazardous Waste" in 268.40; or

(ii) The organic hazardous constituents in the waste have been treated by the treatment technology established by the EPA for the waste in 268.42(a), or have been removed or destroyed by an equivalent method of treatment approved by EPA pursuant to 268.42(b).(11/99)

(5) A tank used for bulk feed of hazardous waste to a waste incinerator and all of the following conditions are met:

(i) The tank is located inside an enclosure vented to a control device that is designed and operated in accordance with all applicable requirements specified under 40 CFR part 61, subpart FF-National Emission Standards for Benzene Waste Operations for a facility at which the total annual benzene quantity from the facility waste is equal to or greater than 10 megagrams per year;

(ii) The enclosure and control device serving the tank were installed and began operation prior to November 25, 1996; and

(iii) The enclosure is designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical or electrical equipment; or to direct air flow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" annually.

(d) The Department may at any time perform or request that the owner or operator perform a waste determination for a hazardous waste managed in a tank, surface impoundment, or container exempted from using air emission controls under the provisions of this section as follows:

(1) The waste determination for average VO concentration of a hazardous waste at the point of waste origination shall be performed using direct measurement in accordance with the applicable requirements of 265.1084(a) of this subpart. The waste determination for a hazardous waste at the point of waste treatment shall be performed in accordance with the applicable requirements of 265.1084(b) of this subpart.

(2) In performing a waste determination pursuant to paragraph (d)(1) of this section, the sample preparation and analysis shall be conducted as follows:

(i) In accordance with the method used by the owner or operator to perform the waste analysis, except in the case specified in paragraph (d)(2)(ii) of this section.

(ii) If the Department determines that the method used by the owner or operator was not appropriate for the hazardous waste managed in the tank, surface impoundment, or container, then the Department may choose an appropriate method.

(3) In a case when the owner or operator is requested to perform the waste determination, the Department may elect to have an authorized representative observe the collection of the hazardous waste samples used for the analysis.

(4) In a case when the results of the waste determination performed or requested by the Department do not agree with the results of a waste determination performed by the owner or operator using knowledge of the waste, then the results of the waste determination performed in accordance with the requirements of paragraph (d)(1) of this section shall be used to establish compliance with the requirements of this subpart.

(5) In a case when the owner or operator has used an averaging period greater than 1 hour for determining the average VO concentration of a hazardous waste at the point of waste origination, the Department may elect to establish compliance with this subpart by performing

or requesting that the owner or operator perform a waste determination using direct measurement based on waste samples collected within a 1-hour period as follows:

(i) The average VO concentration of the hazardous waste at the point of waste origination shall be determined by direct measurement in accordance with the requirements of 265.1084(a) of this subpart.

(ii) Results of the waste determination performed or requested by the Department showing that the average VO concentration of the hazardous waste at the point of waste origination is equal to or greater than 500 ppmw shall constitute noncompliance with this subpart except in a case as provided for in paragraph (d)(5)(iii) of this section.

(iii) For the case when the average VO concentration of the hazardous waste at the point of waste origination previously has been determined by the owner or operator using an averaging period greater than 1 hour to be less than 500 ppmw but because of normal operating process variations the VO concentration of the hazardous waste determined by direct measurement for any given 1-hour period may be equal to or greater than 500 ppmw, information that was used by the owner or operator to determine the average VO concentration of the hazardous waste (e.g., test results, measurements, calculations, and other documentation) and recorded in the facility records in accordance with the requirements of 265.1084(a) and 265.1090 of this subpart shall be considered by the Department together with the results of the waste determination performed or requested by the Department in establishing compliance with this subpart.

265.1084 Waste determination procedures

(a) Waste determination procedure to determine average volatile organic (VO) concentration of a hazardous waste at the point of waste origination.

(1) An owner or operator shall determine the average VO concentration at the point of waste origination for each hazardous waste placed in a waste management unit exempted under the provisions of 265.1083(c)(1) of this subpart from using air emission controls in accordance with standards specified in 265.1085 through 265.1088 of this subpart, as applicable to the waste management unit.

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the hazardous waste stream is placed in a waste management unit exempted under the provisions of 265.1083(c)(1) of this subpart from using air emission controls, and thereafter an initial determination of the average VO concentration of the waste stream shall be made for each averaging period that a hazardous waste is managed in the unit; and (8/00)

(ii) Perform a new waste determination whenever changes to the source generating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level that is equal to or greater than the VO concentration limit specified in 265.1083(c)(1) of this subpart. (8/00)

(2) For a waste determination that is required by paragraph (a)(1) of this section, the average VO concentration of a hazardous waste at the point of waste origination shall be determined using either direct measurement as specified in paragraph (a)(3) of this section or by knowledge as specified in paragraph (a)(4) of this section. (11/99)

(3) Direct measurement to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Identification. The owner or operator shall identify and record the point of waste origination for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste origination in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the source or process generating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. (11/99; 8/00)

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures

in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference-refer to 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, Appendix A.

(D) Sufficient information, as specified in the "site sampling plan" required under paragraph (a)(3)(ii)(C) of this section, shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the source or process generating the hazardous waste represented by the samples. (8/00)

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in paragraphs (a)(3)(iii)(A) through (a)(3)(iii)(I) of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. If Method 25D in 40 CFR part 60, Appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8×10^{-6} atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in paragraphs (a)(3)(iii)(B) through (a)(3)(iii)(G) of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, Appendix A to analyze one or more compounds that are not on that method's published list, the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference - refer to 260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in paragraph (a)(3)(iii)(H) of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, Appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (fm25D). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant value greater than or equal to 0.1 Y/X at 25 degrees Celsius contained in the waste. Constituent-specific adjustment factors (fm25D) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. (8/00)

(A) Method 25D in 40 CFR part 60, Appendix A.

(B) Method 624 in 40 CFR part 136, Appendix A.

(C) Method 625 in 40 CFR part 136, Appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

(D) Method 1624 in 40 CFR part 136, Appendix A.

(E) Method 1625 in 40 CFR part 136, Appendix A.

(F) Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 (incorporated by reference - refer to 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: (11/99)

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(2) Measurement of the overall accuracy and precision of the specific procedures.

(G) Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference - refer to 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements: (11/99)

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, and preparation introduction, and analysis steps.

(2) Measurement of the overall accuracy and precision of the specific procedures.

(H) Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods," 40 CFR part 63, Appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in paragraph (a)(3)(iii)(I) of this section.

(I) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, Appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are

acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations.

(A) The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with paragraphs (a)(3) (ii) and (iii) of this section and the following equation: (11/99)

$$\overline{C} = \frac{1}{Q_T} x \sum_{i=1}^{n} (Q_i x C_i)$$

Where:

$\overline{C}$ = Average VO concentration of the hazardous waste at the point of waste origination on a mass-weighted basis, ppmw.

i = Individual waste determination "i" of the hazardous waste. (11/99)

n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). (11/99; 8/00)

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i = Measured VO concentration of waste determination "i" as determined in accordance with the requirements of paragraph (a)(3)(iii) of this section (i.e. the average of the four or more samples specified in paragraph (a)(3)(ii)(B) of this section), ppmw. (11/99)

(B) For the purpose of determining C_i, for individual waste samples analyzed in accordance with paragraph (a)(3)(iii) of this section, the owner or operator shall account for VO concentrations determined to be below the limit of detection of the analytical method by using the following VO concentration: (11/99)

(1) If Method 25D in 40 CFR part 60, Appendix A is used for the analysis, one-half the blank value determined in the method at section 4.4 of Method 25D in 40 CFR part 60, Appendix A. (11/99)

(2) If any other analytical method is used, one-half the sum of the limits of detection established for each organic constituent in the waste that has a Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10^{-6} atmospheres/gram-mole/m^3] at 25 degrees Celsius. (11/99)

(v) Provided that the test method is appropriate for the waste as required under paragraph (a)(3)(iii) of this section, the Department will determine compliance based on the test method used by the owner or operator as recorded pursuant to 265.1090(f)(1) of this subpart. (11/99)

(4) Use of owner or operator knowledge to determine average VO concentration of a hazardous waste at the point of waste origination.

(i) Documentation shall be prepared that presents the information used as the basis for the owner's or operator's knowledge of the hazardous waste stream's average VO concentration. Examples of information that may be used as the basis for knowledge include: Material balances for the source or process generating the hazardous waste stream; constituent-specific chemical test data for the hazardous waste stream from previous testing that are still applicable to the current waste stream; previous test data for other locations managing the same type of waste stream; or other knowledge based on information included in manifests, shipping papers, or waste certification notices.

(ii) If test data are used as the basis for knowledge, then the owner or operator shall document the test method, sampling protocol, and the means by which sampling variability and analytical variability are accounted for in the determination of the average VO concentration. For example, an owner or operator may use organic concentration test data for the hazardous waste stream that are validated in accordance with Method 301 in 40 CFR part 63, Appendix A as the basis for knowledge of the waste.

(iii) An owner or operator using chemical constituent-specific concentration test data as the basis for knowledge of the hazardous waste may adjust the test data to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, Appendix A. To adjust these data, the measured concentration for each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}).

(iv) In the event that the Department and the owner or operator disagree on a determination of the average VO concentration for a hazardous waste stream using knowledge, then the results from a determination of average VO concentration using direct measurement as specified in paragraph (a)(3) of this section shall be used to establish compliance with the applicable requirements of this subpart. The Department may perform or request that the owner or operator perform this determination using direct measurement. The owner or operator may choose one or more appropriate methods to analyze each collected sample in accordance with the requirements of paragraph (a)(3)(iii) of this section. (11/99)

(b) Waste determination procedures for treated hazardous waste.

(1) An owner or operator shall perform the applicable waste determination for each treated hazardous waste placed in a waste management unit exempted under the provisions of 265.1083(c)(2)(i) through (c)(2)(vi) of this subpart from using air emission controls in accordance with standards specified in 265.1085 through 265.1088 of this subpart, as

applicable to the waste management unit. (11/99)

(i) An initial determination of the average VO concentration of the waste stream shall be made before the first time any portion of the material in the treated waste stream is placed in a waste management unit exempted under the provisions of 265.1083(c)(2), 265.1083(c)(3), or 265.1083(c)(4) of this subpart from using air emission controls, and thereafter update the information used for the waste determination at least once every 12 months following the date of the initial waste determination; and (8/00)

(ii) Perform a new waste determination whenever changes to the process generating or treating the waste stream are reasonably likely to cause the average VO concentration of the hazardous waste to increase to a level such that the applicable treatment conditions specified in 265.1083(c)(2), 265.1083(c)(3), or 265.1083(c)(4) of this subpart are not achieved. (8/00)

(2) The owner or operator shall designate and record the specific provision in 265.1083(c)(2) of this subpart under which the waste determination is being performed. The waste determination for the treated hazardous waste shall be performed using the applicable procedures specified in paragraphs (b)(3) through (b)(9) of this section.

(3) Procedure to determine the average VO concentration of a hazardous waste at the point of waste treatment.

(i) Identification. The owner or operator shall identify and record the point of waste treatment for the hazardous waste.

(ii) Sampling. Samples of the hazardous waste stream shall be collected at the point of waste treatment in a manner such that volatilization of organics contained in the waste and in the subsequent sample is minimized and an adequately representative sample is collected and maintained for analysis by the selected method.

(A) The averaging period to be used for determining the average VO concentration for the hazardous waste stream on a mass-weighted average basis shall be designated and recorded. The averaging period can represent any time interval that the owner or operator determines is appropriate for the hazardous waste stream but shall not exceed 1 year.

(B) A sufficient number of samples, but no less than four samples, shall be collected and analyzed for a hazardous waste determination. All of the samples for a given waste determination shall be collected within a one-hour period. The average of the four or more sample results constitutes a waste determination for the waste stream. One or more waste determinations may be required to represent the complete range of waste compositions and quantities that occur during the entire averaging period due to normal variations in the operating conditions for the process generating or treating the hazardous waste stream. Examples of such normal variations are seasonal variations in waste quantity or fluctuations in ambient temperature. (11/99; 8/00)

(C) All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste stream are collected such that a minimum loss of organics occurs throughout the sample collection and handling process, and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846 (incorporated by reference-refer to 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, Appendix A.

(D) Sufficient information, as specified in the "site sampling plan" required under paragraph (C) of (b)(3)(ii) this section, 265.1084(b)(3)(ii), shall be prepared and recorded to document the waste quantity represented by the samples and, as applicable, the operating conditions for the process treating the hazardous waste represented by the samples. (8/00)

(iii) Analysis. Each collected sample shall be prepared and analyzed in accordance with one or more of the methods listed in paragraphs (b)(3)(iii)(A) through (b)(3)(iii)(I) of this section, including appropriate quality assurance and quality control (QA/QC) checks and use of target compounds for calibration. When the owner or operator is making a waste determination for a treated hazardous waste that is to be compared to an average VO concentration at the point of waste origination or the point of waste entry to the treatment system to determine if the conditions of 264.1082(c)(2)(i) through (c)(2)(vi) or 265.1083(c)(2)(i) through (c)(2)(vi) are met, then the waste samples shall be prepared and analyzed using the same method or methods as were used in making the initial waste determinations at the point of waste origination or at the point of entry to the treatment system. If Method 25D in 40 CFR part 60, Appendix A is not used, then one or more methods should be chosen that are appropriate to ensure that the waste determination accounts for and reflects all organic compounds in the waste with Henry's law constant values at least 0.1 mole-fraction-in-the-gas-phase/mole-fraction-in-the-liquid-phase (0.1 Y/X) [which can also be expressed as 1.8 x 10 -6 atmospheres/gram-mole/m3] at 25 degrees Celsius. Each of the analytical methods listed in paragraphs (b)(3)(iii)(B) through (b)(3)(iii)(G) of this section has an associated list of approved chemical compounds, for which EPA considers the method appropriate for measurement. If an owner or operator uses EPA Method 624, 625, 1624, or 1625 in 40 CFR part 136, Appendix A to analyze one or more compounds that are not on that method's published list,

the Alternative Test Procedure contained in 40 CFR 136.4 and 136.5 must be followed. If an owner or operator uses EPA Method 8260 or 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference - refer to 260.11(a) of this chapter) to analyze one or more compounds that are not on that method's published list, the procedures in paragraph (b)(3)(iii)(H) of this section must be followed. At the owner or operator's discretion, the owner or operator may adjust test data measured by a method other than Method 25D to the corresponding average VO concentration value which would have been obtained had the waste samples been analyzed using Method 25D in 40 CFR part 60, Appendix A. To adjust these data, the measured concentration of each individual chemical constituent contained in the waste is multiplied by the appropriate constituent-specific adjustment factor (f_{m25D}). If the owner or operator elects to adjust test data, the adjustment must be made to all individual chemical constituents with a Henry's law constant equal to or greater than 0.1 Y/X at 25 degrees Celsius contained in the waste. Constituent-specific adjustment factors (f_{m25D}) can be obtained by contacting the Waste and Chemical Processes Group, Office of Air Quality Planning and Standards, Research Triangle Park, NC 27711. (9/01)

(A) Method 25D in 40 CFR part 60, Appendix A.

(B) Method 624 in 40 CFR part 136, Appendix A.

(C) Method 625 in 40 CFR part 136, Appendix A. Perform corrections to the compounds for which the analysis is being conducted based on the "accuracy as recovery" using the factors in Table 7 of the method.

(D) Method 1624 in 40 CFR part 136, Appendix A.

(E) Method 1625 in 40 CFR part 136, Appendix A.

(F) Method 8260 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 (incorporated by reference- refer to 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8260. The quality assurance program shall include the following elements: (11/99)

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(2) Measurement of the overall accuracy and precision of the specific procedures.

(G) Method 8270 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, (incorporated by reference- refer to 260.11(a) of this chapter). Maintain a formal quality assurance program consistent with the requirements of Method 8270. The quality assurance program shall include the following elements:(11/99)

(1) Documentation of site-specific procedures to minimize the loss of compounds due to volatilization, biodegradation, reaction, or sorption during the sample collection, storage, preparation, introduction, and analysis steps.

(2) Measurement of the overall accuracy and precision of the specific procedures.

(H) Any other EPA standard method that has been validated in accordance with "Alternative Validation Procedure for EPA Waste and Wastewater Methods", 40 CFR part 63, Appendix D. As an alternative, other EPA standard methods may be validated by the procedure specified in paragraph (b)(3)(iii)(I) of this section.

(I) Any other analysis method that has been validated in accordance with the procedures specified in Section 5.1 or Section 5.3, and the corresponding calculations in Section 6.1 or Section 6.3, of Method 301 in 40 CFR part 63, Appendix A. The data are acceptable if they meet the criteria specified in Section 6.1.5 or Section 6.3.3 of Method 301. If correction is required under section 6.3.3 of Method 301, the data are acceptable if the correction factor is within the range 0.7 to 1.30. Other sections of Method 301 are not required.

(iv) Calculations. The average VO concentration (C) on a mass-weighted basis shall be calculated by using the results for all waste determinations conducted in accordance with paragraphs (b)(3)(ii) and (iii) of this section and the following equation: (11/99)

$$\overline{C} = \frac{1}{Q_T} x \sum_{i=1}^{n} (Q_i x C_i)$$

Where:

$\overline{C}$ = Average VO concentration of the hazardous waste at the point of waste treatment on a mass-weighted basis, ppmw.

i = Individual waste determination "i" of the hazardous waste. (11/99)

n = Total number of waste determinations of the hazardous waste conducted for the averaging period (not to exceed 1 year). (11/99, 9/01)

Q_i = Mass quantity of hazardous waste stream represented by C_i, kg/hr.

Q_T = Total mass quantity of hazardous waste during the averaging period, kg/hr.

C_i=Measured VO concentration of waste determination "i" as determined in accordance with the requirements of paragraph (b)(3)(iii) of this section (i.e. the average of the four or more samples specified in paragraph (b)(3)(ii)(B) of this section), ppmw. (11/99)

(v) Provided that the test method is appropriate for the waste as required under paragraph (b)(3)(iii) of this section, compliance shall be determined based on the test method used by the owner or operator as

recorded pursuant to 265.1090(f)(1) of this subpart. (11/99)

(4) Procedure to determine the exit concentration limit (C_t) for a treated hazardous waste.

(i) The point of waste origination for each hazardous waste treated by the process at the same time shall be identified.

(ii) If a single hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the exit concentration limit (C_t) shall be 500 ppmw.

(iii) If more than one hazardous waste stream is identified in paragraph (b)(4)(i) of this section, then the average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section. The exit concentration limit (C_t) shall be calculated by using the results determined for each individual hazardous waste stream and the following equation:

$$C_t = \frac{\sum_{x=1}^{m} (Q_x x\overline{C_x}) + \sum_{y=1}^{n} (Q_y x500ppmw)}{\sum_{x=1}^{m} Q_x + \sum_{y=1}^{n} Q_y}$$

Where:

C_t = Exit concentration limit for treated hazardous waste, ppmw.

x = Individual hazardous waste stream "x" that has an average VO concentration less than 500 ppmw at the point of waste origination as determined in accordance with the requirements of 265.1084(a) of this subpart.

y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of 265.1084(a) of this subpart.

m = Total number of "x" hazardous waste streams treated by process.

n = Total number of "y" hazardous waste streams treated by process.

Q_x = Annual mass quantity of hazardous waste stream "x," kg/yr.

Q_y = Annual mass quantity of hazardous waste stream "y," kg/yr.

$\overline{C}_x$ = Average VO concentration of hazardous waste stream "x" at the point of waste origination as determined in accordance with the requirements of 265.1084(a) of this subpart, ppmw.

(5) Procedure to determine the organic reduction efficiency (R) for a treated hazardous waste.

(i) The organic reduction efficiency (R) for a treatment process shall be determined based on results for a minimum of three consecutive runs.

(ii) All hazardous waste streams entering the treatment process and all hazardous waste streams exiting the treatment process shall be identified. The owner or operator shall prepare a sampling plan for measuring these streams that accurately reflects the retention time of the hazardous waste in the process.

(iii) For each run, information shall be determined for each hazardous waste stream identified in paragraph (b)(5)(ii) of this section using the following procedures:

(A) The mass quantity of each hazardous waste stream entering the process (Q_b) and the mass quantity of each hazardous waste stream exiting the process (Q_a) shall be determined.

(B) The average VO concentration at the point of waste origination of each hazardous waste stream entering the process ($\overline{C}_b$) during the run shall be determined in accordance with the requirements of paragraph (a)(3) of this section. The average VO concentration at the point of waste treatment of each waste stream exiting the process ($\overline{C}_a$) during the run shall be determined in accordance with the requirements of paragraph (b)(3) of this section.

(iv) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be calculated by using the results determined in accordance with paragraph (b)(5)(iii) of this section and the following equations:

$$E_b = \frac{1}{10^6} \sum_{j=1}^{m} (Q_{bj} x\overline{C_{bj}})$$

$$E_a = \frac{1}{10^6} \sum_{j=1}^{m} (Q_{aj} x\overline{C_{aj}})$$

Where:

E_a = Waste volatile organic mass flow exiting process, kg/hr.

E_b = Waste volatile organic mass flow entering process, kg/hr.

m = Total number of runs (at least 3)

j = Individual run "j"

Q_b = Mass quantity of hazardous waste entering process during run "j," kg/hr.

Q_a = Average mass quantity of hazardous waste exiting process during run "j," kg/hr.

$\overline{C}_a$ = Average VO concentration of hazardous waste exiting process during run "j" as determined in accordance with the requirements of 265.1084(b)(3) of this subpart, ppmw.

$\overline{C}_b$ = Average VO concentration of hazardous waste entering process during run "j" as determined in accordance with the requirements of 265.1084(a)(3) of this subpart, ppmw.

(v) The organic reduction efficiency of the process shall be calculated by using the results determined in accordance with paragraph (b)(5)(iv) of this section and the following equation:

$$R = \frac{E_b - E_a}{E_b} x100\%$$

Where:
R = Organic reduction efficiency, percent.
E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.
E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(6) Procedure to determine the organic biodegradation efficiency (R_{bio}) for a treated hazardous waste.

(i) The fraction of organics biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, Appendix C of this chapter.

(ii) The R_{bio} shall be calculated by using the following equation:

$$R_{bio} = F_{bio} \, x \, 100\%$$

Where:
R_{bio} = Organic biodegradation efficiency, percent.
F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(6)(i) of this section.

(7) Procedure to determine the required organic mass removal rate (RMR) for a treated hazardous waste.

(i) All of the hazardous waste streams entering the treatment process shall be identified.

(ii) The average VO concentration of each hazardous waste stream at the point of waste origination shall be determined in accordance with the requirements of paragraph (a) of this section.

(iii) For each individual hazardous waste stream that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination, the average volumetric flow rate and the density of the hazardous waste stream at the point of waste origination shall be determined.

(iv) The RMR shall be calculated by using the average VO concentration, average volumetric flow rate, and density determined for each individual hazardous waste stream, and the following equation:

$$RMR = \sum_{y=1}^{n} \left[V_y \, x \, k_y \, x \frac{(\overline{C}_y - 500 \text{ ppmw})}{10^6} \right]$$

Where:
RMR = Required organic mass removal rate, kg/hr.
y = Individual hazardous waste stream "y" that has an average VO concentration equal to or greater than 500 ppmw at the point of waste origination as determined in accordance with the requirements of 265.1084(a) of this subpart.
n = Total number of "y" hazardous waste streams treated by process.
V_y = Average volumetric flow rate of hazardous waste stream "y" at the point of waste origination, m^3/hr.
k_y = Density of hazardous waste stream "y," kg/m^3
$\overline{C}_y$ = Average VO concentration of hazardous waste stream "y" at the point of waste origination as determined in accordance with the requirements of 265.1084(a) of this subpart, ppmw.

(8) Procedure to determine the actual organic mass removal rate (MR) for a treated hazardous waste.

(i) The MR shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste volatile organic mass flow entering the process (E_b) and the waste volatile organic mass flow exiting the process (E_a) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The MR shall be calculated by using the mass flow rate determined in accordance with the requirements of paragraph (b)(8)(ii) of this section and the following equation:

$$MR = E_b - E_a$$

Where:
MR = Actual organic mass removal rate, kg/hr.
E_b = Waste volatile organic mass flow entering process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.
E_a = Waste volatile organic mass flow exiting process as determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.

(9) Procedure to determine the actual organic mass biodegradation rate (MR_{bio}) for a treated hazardous waste.

(i) The MR_{bio} shall be determined based on results for a minimum of three consecutive runs. The sampling time for each run shall be 1 hour.

(ii) The waste organic mass flow entering the process (E_b) shall be determined in accordance with the requirements of paragraph (b)(5)(iv) of this section.

(iii) The fraction of organic biodegraded (F_{bio}) shall be determined using the procedure specified in 40 CFR part 63, Appendix C of this chapter.

(iv) The MR_{bio} shall be calculated by using the mass flow rates and fraction of organic biodegraded determined in accordance with the requirements of paragraphs (b)(9)(ii) and (b)(9)(iii), respectively, of this section and the following equation:

$$MR_{bio} = E_b \text{ x } F_{bio}$$

Where:
MR_{bio} = Actual organic mass biodegradation rate, kg/hr.
E_b = Waste organic mass flow entering process as

determined in accordance with the requirements of paragraph (b)(5)(iv) of this section, kg/hr.
F_{bio} = Fraction of organic biodegraded as determined in accordance with the requirements of paragraph (b)(9)(iii) of this section.

(c) Procedure to determine the maximum organic vapor pressure of a hazardous waste in a tank.

(1) An owner or operator shall determine the maximum organic vapor pressure for each hazardous waste placed in a tank using Tank Level 1 controls in accordance with the standards specified in 265.1085(c) of this subpart.

(2) An owner or operator shall use either direct measurement as specified in paragraph (c)(3) of this section or knowledge of the waste as specified by paragraph (c)(4) of this section to determine the maximum organic vapor pressure which is representative of the hazardous waste composition stored or treated in the tank.

(3) Direct measurement to determine the maximum organic vapor pressure of a hazardous waste.

(i) Sampling. A sufficient number of samples shall be collected to be representative of the waste contained in the tank. All samples shall be collected and handled in accordance with written procedures prepared by the owner or operator and documented in a site sampling plan. This plan shall describe the procedure by which representative samples of the hazardous waste are collected such that a minimum loss of organics occurs throughout the sample collection and handling process and by which sample integrity is maintained. A copy of the written sampling plan shall be maintained on-site in the facility operating records. An example of an acceptable sampling plan includes a plan incorporating sample collection and handling procedures in accordance with the requirements specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication No. SW-846, (incorporated by reference-refer to 260.11(a) of this chapter), or in Method 25D in 40 CFR part 60, Appendix A.

(ii) Analysis. Any appropriate one of the following methods may be used to analyze the samples and compute the maximum organic vapor pressure of the hazardous waste:

(A) Method 25E in 40 CFR part 60 Appendix A;

(B) Methods described in American Petroleum Institute Publication 2517, Third Edition, February 1989, "Evaporative Loss from External Floating-Roof Tanks," (incorporated by reference-refer to 260.11 of this chapter);

(C) Methods obtained from standard reference texts;

(D) ASTM Method 2879-92 (incorporated by reference-refer to 260.11 of this chapter); and

(E) Any other method approved by the Department.

(4) Use of knowledge to determine the maximum organic vapor pressure of the hazardous waste. Documentation shall be prepared and recorded that presents the information used as the basis for the owner's or operator's knowledge that the maximum organic vapor pressure of the hazardous waste is less than the maximum vapor pressure limit listed in 265.1085(b)(1)(i) of this subpart for the applicable tank design capacity category. An example of information that may be used is documentation that the hazardous waste is generated by a process for which at other locations it previously has been determined by direct measurement that the waste maximum organic vapor pressure is less than the maximum vapor pressure limit for the appropriate tank design capacity category.

(d) Procedure for determining no detectable organic emissions for the purpose of complying with this subpart:

(1) The test shall be conducted in accordance with the procedures specified in Method 21 of 40 CFR part 60, Appendix A. Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the cover and associated closure devices shall be checked. Potential leak interfaces that are associated with covers and closure devices include, but are not limited to: The interface of the cover and its foundation mounting; the periphery of any opening on the cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure relief valve.

(2) The test shall be performed when the unit contains a hazardous waste having an organic concentration representative of the range of concentrations for the hazardous waste expected to be managed in the unit. During the test, the cover and closure devices shall be secured in the closed position.

(3) The detection instrument shall meet the performance criteria of Method 21 of 40 CFR part 60, Appendix A, except the instrument response factor criteria in section 3.1.2(a) of Method 21 shall be for the average composition of the organic constituents in the hazardous waste placed in the waste management unit, not for each individual organic constituent.

(4) The detection instrument shall be calibrated before use on each day of its use by the procedures specified in Method 21 of 40 CFR part 60, Appendix A.

(5) Calibration gases shall be as follows:

(i) Zero air (less than 10 ppmv hydrocarbon in air), and

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than 10,000 ppmv methane or n-hexane. (11/99)

(6) The background level shall be determined according to the procedures in Method 21 of 40 CFR part 60, Appendix A.

(7) Each potential leak interface shall be checked by traversing the instrument probe around the potential leak interface as close to the interface as possible, as

described in Method 21 of 40 CFR part 60, Appendix A. In the case when the configuration of the cover or closure device prevents a complete traverse of the interface, all accessible portions of the interface shall be sampled. In the case when the configuration of the closure device prevents any sampling at the interface and the device is equipped with an enclosed extension or horn (e.g., some pressure relief devices), the instrument probe inlet shall be placed at approximately the center of the exhaust area to the atmosphere.

(8) The arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 500 ppmv except when monitoring a seal around a rotating shaft that passes through a cover opening, in which case the comparison shall be as specified in paragraph (d)(9) of this section. If the difference is less than 500 ppmv, then the potential leak interface is determined to operate with no detectable organic emissions.

(9) For the seals around a rotating shaft that passes through a cover opening, the arithmetic difference between the maximum organic concentration indicated by the instrument and the background level shall be compared with the value of 10,000 ppmw. If the difference is less than 10,000 ppmw, then the potential leak interface is determined to operate with no detectable organic emissions.

265.1085 Standards: Tanks

(a) The provisions of this section apply to the control of air pollutant emissions from tanks for which 265.1083(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from each tank subject to this section in accordance with the following requirements, as applicable:

(1) For a tank that manages hazardous waste that meets all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank in accordance with the Tank Level 1 controls specified in paragraph (c) of this section or the Tank Level 2 controls specified in paragraph (d) of this section.

(i) The hazardous waste in the tank has a maximum organic vapor pressure which is less than the maximum organic vapor pressure limit for the tank's design capacity category as follows:

(A) For a tank design capacity equal to or greater than 151 m3, the maximum organic vapor pressure limit for the tank is 5.2 kPa.

(B) For a tank design capacity equal to or greater than 75 m3 less than 151 m3, the maximum organic vapor pressure limit for the tank is 27.6 kPa.

(C) For a tank design capacity less than 75 m3, the maximum organic vapor pressure limit for the tank is 76.6 kPa.

(ii) The hazardous waste in the tank is not heated by the owner or operator to a temperature that is greater than the temperature at which the maximum organic vapor pressure of the hazardous waste is determined for the purpose of complying with paragraph (b)(1)(i) of this section.

(iii) The hazardous waste in the tank is not treated by the owner or operator using a waste stabilization process, as defined in 265.1081 of this subpart.

(2) For a tank that manages hazardous waste that does not meet all of the conditions specified in paragraphs (b)(1)(i) through (b)(1)(iii) of this section, the owner or operator shall control air pollutant emissions from the tank by using Tank Level 2 controls in accordance with the requirements of paragraph (d) of this section. Examples of tanks required to use Tank Level 2 controls include: A tank used for a waste stabilization process; and a tank for which the hazardous waste in the tank has a maximum organic vapor pressure that is equal to or greater than the maximum organic vapor pressure limit for the tank's design capacity category as specified in paragraph (b)(1)(i) of this section.

(c) Owners and operators controlling air pollutant emissions from a tank using Tank Level 1 controls shall meet the requirements specified in paragraphs (c)(1) through (c)(4) of this section:

(1) The owner or operator shall determine the maximum organic vapor pressure for a hazardous waste to be managed in the tank using Tank Level 1 controls before the first time the hazardous waste is placed in the tank. The maximum organic vapor pressure shall be determined using the procedures specified in 265.1084(c) of this subpart. Thereafter, the owner or operator shall perform a new determination whenever changes to the hazardous waste managed in the tank could potentially cause the maximum organic vapor pressure to increase to a level that is equal to or greater than the maximum organic vapor pressure limit for the tank design capacity category specified in paragraph (b)(1)(i) of this section, as applicable to the tank.

(2) The tank shall be equipped with a fixed roof designed to meet the following specifications:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the hazardous waste in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).

(ii) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.

(iii) Each opening in the fixed roof, and any

manifold system associated with the fixed roof, shall be either: (11/99)

(A) Equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

(B) Connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever hazardous waste is managed in the tank, except as provided for in paragraphs (c)(2)(iii)(B)(1) and (2) of this section. (11/99)

(1) During periods it is necessary to provide access to the tank for performing the activities of paragraph (c)(2)(iii)(B)(2) of this section, venting of the vapor headspace underneath the fixed roof to the control device is not required, opening of closure devices is allowed, and removal of the fixed roof is allowed. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, and resume operation of the control device. (11/99)

(2) During periods of routine inspection, maintenance, or other activities needed for normal operations, and for the removal of accumulated sludge or other residues from the bottom of the tank. (11/99)

(iv) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the hazardous waste or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(3) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position except as follows:

(i) Opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of tank.

(ii) Opening of a spring-loaded pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the tank internal pressure in accordance with the tank design specifications. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the tank internal pressure is within the internal pressure operating range determined by the owner or operator based on the tank manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the tank internal pressure exceeds the internal pressure operating range for the tank as a result of loading operations or diurnal ambient temperature fluctuations.

(iii) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator shall inspect the air emission control equipment in accordance with the following requirements.

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the fixed roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except under the special conditions provided for in paragraph (l) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(b) of this subpart.

(d) Owners and operators controlling air pollutant emissions from a tank using Tank Level 2 controls shall use one of the following tanks:

(1) A fixed-roof tank equipped with an internal floating roof in accordance with the requirements specified in paragraph (e) of this section;

(2) A tank equipped with an external floating roof

in accordance with the requirements specified in paragraph (f) of this section;

(3) A tank vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (g) of this section;

(4) A pressure tank designed and operated in accordance with the requirements specified in paragraph (h) of this section; or

(5) A tank located inside an enclosure that is vented through a closed-vent system to an enclosed combustion control device in accordance with the requirements specified in paragraph (i) of this section.

(e) The owner or operator who controls air pollutant emissions from a tank using a fixed-roof with an internal floating roof shall meet the requirements specified in paragraphs (e)(1) through (e)(3) of this section.

(1) The tank shall be equipped with a fixed roof and an internal floating roof in accordance with the following requirements:

(i) The internal floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The internal floating roof shall be equipped with a continuous seal between the wall of the tank and the floating roof edge that meets either of the following requirements:

(A) A single continuous seal that is either a liquid-mounted seal or a metallic shoe seal, as defined in 265.1081 of this subpart; or

(B) Two continuous seals mounted one above the other. The lower seal may be a vapor-mounted seal.

(iii) The internal floating roof shall meet the following specifications:

(A) Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.

(B) Each opening in the internal floating roof shall be equipped with a gasketed cover or a gasketed lid except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains.

(C) Each penetration of the internal floating roof for the purpose of sampling shall have a slit fabric cover that covers at least 90 percent of the opening.

(D) Each automatic bleeder vent and rim space vent shall be gasketed.

(E) Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.

(F) Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Automatic bleeder vents are to be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(iii) Prior to filling the tank, each cover, access hatch, gauge float well or lid on any opening in the internal floating roof shall be bolted or fastened closed (i.e., no visible gaps). Rim space vents are to be set to open only when the internal floating roof is not floating or when the pressure beneath the rim exceeds the manufacturer's recommended setting.

(3) The owner or operator shall inspect the internal floating roof in accordance with the procedures specified as follows:

(i) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: The internal floating roof is not floating on the surface of the liquid inside the tank; liquid has accumulated on top of the internal floating roof; any portion of the roof seals have detached from the roof rim; holes, tears, or other openings are visible in the seal fabric; the gaskets no longer close off the hazardous waste surface from the atmosphere; or the slotted membrane has more than 10 percent open area.

(ii) The owner or operator shall inspect the internal floating roof components as follows except as provided in paragraph (e)(3)(iii) of this section:

(A) Visually inspect the internal floating roof components through openings on the fixed-roof (e.g., manholes and roof hatches) at least once every 12 months after initial fill, and

(B) Visually inspect the internal floating roof, primary seal, secondary seal (if one is in service), gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 10 years.

(iii) As an alternative to performing the inspections specified in paragraph (e)(3)(ii) of this section for an internal floating roof equipped with two continuous seals mounted one above the other, the owner or operator may visually inspect the internal floating roof, primary and secondary seals, gaskets, slotted membranes, and sleeve seals (if any) each time the tank is emptied and degassed and at least every 5 years.

(iv) Prior to each inspection required by paragraph (e)(3)(ii) or (e)(3)(iii) of this section, the owner or operator shall notify the Department in advance of each inspection to provide the Department with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Department of the date and location of the inspection as

follows:

(A) Prior to each visual inspection of an internal floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the Department at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (e)(3)(iv)(B) of this section.

(B) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Department as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Department at least 7 calendar days before refilling the tank.

(v) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(vi) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(b) of this subpart.

(4) Safety devices, as defined in 265.1081 of this subpart, may be installed and operated as necessary on any tank complying with the requirements of paragraph (e) of this section. (11/99)

(f) The owner or operator who controls air pollutant emissions from a tank using an external floating roof shall meet the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) The owner or operator shall design the external floating roof in accordance with the following requirements:

(i) The external floating roof shall be designed to float on the liquid surface except when the floating roof must be supported by the leg supports.

(ii) The floating roof shall be equipped with two continuous seals, one above the other, between the wall of the tank and the roof edge. The lower seal is referred to as the primary seal, and the upper seal is referred to as the secondary seal.

(A) The primary seal shall be a liquid-mounted seal or a metallic shoe seal, as defined in 265.1081 of this subpart. The total area of the gaps between the tank wall and the primary seal shall not exceed 212 square centimeters (cm2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 3.8 centimeters (cm). If a metallic shoe seal is used for the primary seal, the metallic shoe seal shall be designed so that one end extends into the liquid in the tank and the other end extends a vertical distance of at least 61 centimeters above the liquid surface.

(B) The secondary seal shall be mounted above the primary seal and cover the annular space between the floating roof and the wall of the tank. The total area of the gaps between the tank wall and the secondary seal shall not exceed 21.2 square centimeters (cm2) per meter of tank diameter, and the width of any portion of these gaps shall not exceed 1.3 centimeters (cm).

(iii) The external floating roof shall meet the following specifications:

(A) Except for automatic bleeder vents (vacuum breaker vents) and rim space vents, each opening in a noncontact external floating roof shall provide a projection below the liquid surface.

(B) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be equipped with a gasketed cover, seal, or lid.

(C) Each access hatch and each gauge float well shall be equipped with a cover designed to be bolted or fastened when the cover is secured in the closed position.

(D) Each automatic bleeder vent and each rim space vent shall be equipped with a gasket.

(E) Each roof drain that empties into the liquid managed in the tank shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening.

(F) Each unslotted and slotted guide pole well shall be equipped with a gasketed sliding cover or a flexible fabric sleeve seal.

(G) Each unslotted guide pole shall be equipped with a gasketed cap on the end of the pole.

(H) Each slotted guide pole shall be equipped with a gasketed float or other device which closes off the liquid surface from the atmosphere.

(I) Each gauge hatch and each sample well shall be equipped with a gasketed cover.

(2) The owner or operator shall operate the tank in accordance with the following requirements:

(i) When the floating roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be completed as soon as practical.

(ii) Except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, each opening in the roof shall be secured and maintained in a closed position at all times except when the closure device must be open for access.

(iii) Covers on each access hatch and each gauge float well shall be bolted or fastened when secured in the closed position.

(iv) Automatic bleeder vents shall be set closed at all times when the roof is floating, except when the roof is being floated off or is being landed on the leg supports.

(v) Rim space vents shall be set to open only at those times that the roof is being floated off the roof leg supports or when the pressure beneath the rim seal exceeds the manufacturer's recommended setting.

(vi) The cap on the end of each unslotted guide pole shall be secured in the closed position at all times except when measuring the level or collecting samples of the liquid in the tank.

(vii) The cover on each gauge hatch or sample well shall be secured in the closed position at all times except when the hatch or well must be opened for access.

(viii) Both the primary seal and the secondary seal shall completely cover the annular space between the external floating roof and the wall of the tank in a continuous fashion except during inspections.

(3) The owner or operator shall inspect the external floating roof in accordance with the procedures specified as follows:

(i) The owner or operator shall measure the external floating roof seal gaps in accordance with the following requirements:

(A) The owner or operator shall perform measurements of gaps between the tank wall and the primary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every 5 years.

(B) The owner or operator shall perform measurements of gaps between the tank wall and the secondary seal within 60 calendar days after initial operation of the tank following installation of the floating roof and, thereafter, at least once every year.

(C) If a tank ceases to hold hazardous waste for a period of 1 year or more, subsequent introduction of hazardous waste into the tank shall be considered an initial operation for the purposes of paragraphs (f)(3)(i)(A) and (f)(3)(i)(B) of this section.

(D) The owner or operator shall determine the total surface area of gaps in the primary seal and in the secondary seal individually using the following procedure:

(1) The seal gap measurements shall be performed at one or more floating roof levels when the roof is floating off the roof supports.

(2) Seal gaps, if any, shall be measured around the entire perimeter of the floating roof in each place where a 0.32-centimeter (cm) diameter uniform probe passes freely (without forcing or binding against the seal) between the seal and the wall of the tank and measure the circumferential distance of each such location.

(3) For a seal gap measured under paragraph (f)(3) of this section, the gap surface area shall be determined by using probes of various widths to measure accurately the actual distance from the tank wall to the seal and multiplying each such width by its respective circumferential distance.

(4) The total gap area shall be calculated by adding the gap surface areas determined for each identified gap location for the primary seal and the secondary seal individually, and then dividing the sum for each seal type by the nominal diameter of the tank. These total gap areas for the primary seal and secondary seal are then are compared to the respective standards for the seal type as specified in paragraph (f)(1)(ii) of this section. (11/99)

(E) In the event that the seal gap measurements do not conform to the specifications in paragraph (f)(1)(ii) of this section, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(F) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(b) of this subpart.

(ii) The owner or operator shall visually inspect the external floating roof in accordance with the following requirements:

(A) The floating roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to: Holes, tears, or other openings in the rim seal or seal fabric of the floating roof; a rim seal detached from the floating roof; all or a portion of the floating roof deck being submerged below the surface of the liquid in the tank; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(B) The owner or operator shall perform an initial inspection of the external floating roof and its closure devices on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(C) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(D) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(b) of this subpart.

(iii) Prior to each inspection required by paragraph (f)(3)(i) or (f)(3)(ii) of this section, the owner or operator shall notify the Department in advance of each inspection to provide the Department with the opportunity to have an observer present during the inspection. The owner or operator shall notify the Department of the date and location of the inspection as follows:

(A) Prior to each inspection to measure external floating roof seal gaps as required under paragraph (f)(3)(i) of this section, written notification shall be prepared and sent by the owner or operator so that it is received by the Department at least 30 calendar days before the date the measurements are scheduled to be performed.

(B) Prior to each visual inspection of an external floating roof in a tank that has been emptied and degassed, written notification shall be prepared and sent by the owner or operator so that it is received by the

Department at least 30 calendar days before refilling the tank except when an inspection is not planned as provided for in paragraph (f)(3)(iii)(C) of this section.

(C) When a visual inspection is not planned and the owner or operator could not have known about the inspection 30 calendar days before refilling the tank, the owner or operator shall notify the Department as soon as possible, but no later than 7 calendar days before refilling of the tank. This notification may be made by telephone and immediately followed by a written explanation for why the inspection is unplanned. Alternatively, written notification, including the explanation for the unplanned inspection, may be sent so that it is received by the Department at least 7 calendar days before refilling the tank.

(4) Safety devices, as defined in 265.1081, may be installed and operated as necessary on any tank complying with the requirements of paragraph (f) of this section. (11/99)

(g) The owner or operator who controls air pollutant emissions from a tank by venting the tank to a control device shall meet the requirements specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The tank shall be covered by a fixed roof and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank.

(ii) Each opening in the fixed roof not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the fixed roof is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the fixed roof is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions.

(iii) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the fixed roof and closure devices throughout their intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: Organic vapor permeability, the effects of any contact with the liquid and its vapor managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 265.1088 of this subpart.

(2) Whenever a hazardous waste is in the tank, the fixed roof shall be installed with each closure device secured in the closed position and the vapor headspace underneath the fixed roof vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the fixed roof is allowed at the following times:

(A) To provide access to the tank for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the tank, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the tank.

(B) To remove accumulated sludge or other residues from the bottom of a tank.

(ii) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The fixed roof and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 265.1088 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the tank becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (l) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (k) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(b) of this subpart.

(h) The owner or operator who controls air pollutant emissions by using a pressure tank shall meet the following requirements.

(1) The tank shall be designed not to vent to the atmosphere as a result of compression of the vapor headspace in the tank during filling of the tank to its

design capacity.

(2) All tank openings shall be equipped with closure devices designed to operate with no detectable organic emissions as determined using the procedure specified in 265.1084(d) of this subpart.

(3) Whenever a hazardous waste is in the tank, the tank shall be operated as a closed system that does not vent to the atmosphere except under either of the following conditions as specified in paragraph (h)(3)(i) or (h)(3)(ii) of this section. (8/00)

(i) At those times when opening of a safety device, as defined in 265.1081 of this subpart, is required to avoid an unsafe condition. (8/00)

(ii) At those times when purging of inerts from the tank is required and the purge stream is routed to a closed-vent system and control device designed and operated in accordance with the requirements of 265.1088 of this subpart. (8/00)

(i) The owner or operator who controls air pollutant emissions by using an enclosure vented through a closed-vent system to an enclosed combustion control device shall meet the requirements specified in paragraphs (i)(1) through (i)(4) of this section.

(1) The tank shall be located inside an enclosure. The enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of material into or out of the enclosure by conveyor, vehicles, or other mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(2) The enclosure shall be vented through a closed-vent system to an enclosed combustion control device that is designed and operated in accordance with the standards for either a vapor incinerator, boiler, or process heater specified in 265.1088 of this subpart.

(3) Safety devices, as defined in 265.1081 of this subpart, may be installed and operated as necessary on any enclosure, closed-vent system, or control device used to comply with the requirements of paragraphs (i)(1) and (i)(2) of this section.

(4) The owner or operator shall inspect and monitor the closed-vent system and control device as specified in 265.1088 of this subpart.

(j) The owner or operator shall transfer hazardous waste to a tank subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (j)(2) of this section, to the tank from another tank subject to this section or from a surface impoundment subject to 265.1086 of this subpart shall be conducted using continuous hard-piping or another closed system that does not allow exposure of the hazardous waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (j)(1) of this section do not apply when transferring a hazardous waste to the tank under any of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in 265.1083(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in 265.1083(c)(2) of this subpart.

(iii) The hazardous waste meets the requirements of 265.1083(c)(4) of this subpart. (11/99)

(k) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraphs (c)(4), (e)(3), (f)(3), or (g)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (k)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the tank and no alternative tank capacity is available at the site to accept the hazardous waste normally managed in the tank. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(l) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year under the following special conditions:

(1) In the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions, then the owner or operator may designate a cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(i) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(ii) Develop and implement a written plan and schedule to inspect and monitor the cover, using the procedures specified in the applicable section of this

subpart, as frequently as practicable during those times when a worker can safely access the cover.

(2) In the case when a tank is buried partially or entirely underground, an owner or operator is required to inspect and monitor, as required by the applicable provisions of this section, only those portions of the tank cover and those connections to the tank (e.g., fill ports, access hatches, gauge wells, etc.) that are located on or above the ground surface.

265.1086 Standards: surface impoundments

(a) The provisions of this section apply to the control of air pollutant emissions from surface impoundments for which 265.1083(b) of this subpart references the use of this section for such air emission control.

(b) The owner or operator shall control air pollutant emissions from the surface impoundment by installing and operating either of the following:

(1) A floating membrane cover in accordance with the provisions specified in paragraph (c) of this section; or

(2) A cover that is vented through a closed-vent system to a control device in accordance with the requirements specified in paragraph (d) of this section. (11/99)

(c) The owner or operator who controls air pollutant emissions from a surface impoundment using a floating membrane cover shall meet the requirements specified in paragraphs (c)(1) through (c)(3) of this section.

(1) The surface impoundment shall be equipped with a floating membrane cover designed to meet the following specifications:

(i) The floating membrane cover shall be designed to float on the liquid surface during normal operations and form a continuous barrier over the entire surface area of the liquid.

(ii) The cover shall be fabricated from a synthetic membrane material that is either:

(A) High density polyethylene (HDPE) with a thickness no less than 2.5 millimeters (mm); or

(B) A material or a composite of different materials determined to have both organic permeability properties that are equivalent to those of the material listed in paragraph (c)(1)(ii)(A) of this section and chemical and physical properties that maintain the material integrity for the intended service life of the material.

(iii) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section seams or between the interface of the cover edge and its foundation mountings.

(iv) Except as provided for in paragraph (c)(1)(v) of this section, each opening in the floating membrane cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device.

(v) The floating membrane cover may be equipped with one or more emergency cover drains for removal of stormwater. Each emergency cover drain shall be equipped with a slotted membrane fabric cover that covers at least 90 percent of the area of the opening or a flexible fabric sleeve seal.

(vi) The closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid and its vapor managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the floating membrane cover is installed.

(2) Whenever a hazardous waste is in the surface impoundment, the floating membrane cover shall float on the liquid and each closure device shall be secured in the closed position except as follows:

(i) Opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample the liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly replace the cover and secure the closure device in the closed position, as applicable.

(B) To remove accumulated sludge or other residues from the bottom of surface impoundment.

(ii) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect the floating membrane cover in accordance with the following procedures:

(i) The floating membrane cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The owner or operator shall perform an initial inspection of the floating membrane cover and its closure devices on or before the date that the surface impoundment becomes subject to this section.

Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iii) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(iv) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(c) of this subpart.

(d) The owner or operator who controls air pollutant emissions from a surface impoundment using a cover vented to a control device shall meet the requirements specified in paragraphs (d)(1) through (d)(3) of this section.

(1) The surface impoundment shall be covered by a cover and vented directly through a closed-vent system to a control device in accordance with the following requirements:

(i) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the surface impoundment.

(ii) Each opening in the cover not vented to the control device shall be equipped with a closure device. If the pressure in the vapor headspace underneath the cover is less than atmospheric pressure when the control device is operating, the closure devices shall be designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device. If the pressure in the vapor headspace underneath the cover is equal to or greater than atmospheric pressure when the control device is operating, the closure device shall be designed to operate with no detectable organic emissions using the procedure specified in 265.1084(d) of this subpart.

(iii) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the hazardous waste to the atmosphere, to the extent practical, and will maintain the integrity of the cover and closure devices throughout their intended service life. Factors to be considered when selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability; the effects of any contact with the liquid or its vapors managed in the surface impoundment; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the surface impoundment on which the cover is installed. (11/99)

(iv) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 265.1088 of this subpart.

(2) Whenever a hazardous waste is in the surface impoundment, the cover shall be installed with each closure device secured in the closed position and the vapor headspace underneath the cover vented to the control device except as follows:

(i) Venting to the control device is not required, and opening of closure devices or removal of the cover is allowed at the following times:

(A) To provide access to the surface impoundment for performing routine inspection, maintenance, or other activities needed for normal operations. Examples of such activities include those times when a worker needs to open a port to sample liquid in the surface impoundment, or when a worker needs to open a hatch to maintain or repair equipment. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable, to the surface impoundment.

(B) To remove accumulated sludge or other residues from the bottom of the surface impoundment. (11/99)

(ii) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(3) The owner or operator shall inspect and monitor the air emission control equipment in accordance with the following procedures:

(i) The surface impoundment cover and its closure devices shall be visually inspected by the owner or operator to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes, or gaps in the cover section seams or between the interface of the cover edge and its foundation mountings; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.

(ii) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 265.1088 of this subpart.

(iii) The owner or operator shall perform an initial inspection of the air emission control equipment on or before the date that the surface impoundment becomes subject to this section. Thereafter, the owner or operator shall perform the inspections at least once every year except for the special conditions provided for in paragraph (g) of this section.

(iv) In the event that a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (f) of this section.

(v) The owner or operator shall maintain a record of the inspection in accordance with the requirements specified in 265.1090(c) of this subpart.

(e) The owner or operator shall transfer hazardous waste to a surface impoundment subject to this section in accordance with the following requirements:

(1) Transfer of hazardous waste, except as provided in paragraph (e)(2) of this section, to the surface impoundment from another surface impoundment subject to this section or from a tank subject to 265.1085 of this subpart shall be conducted using continuous hard-piping or another closed system

that does not allow exposure of the waste to the atmosphere. For the purpose of complying with this provision, an individual drain system is considered to be a closed system when it meets the requirements of 40 CFR part 63, subpart RR-National Emission Standards for Individual Drain Systems.

(2) The requirements of paragraph (e)(1) of this section do not apply when transferring a hazardous waste to the surface impoundment under either of the following conditions:

(i) The hazardous waste meets the average VO concentration conditions specified in 265.1083(c)(1) of this subpart at the point of waste origination.

(ii) The hazardous waste has been treated by an organic destruction or removal process to meet the requirements in 265.1083(c)(2) of this subpart.

(iii) The hazardous waste meets the requirements of 265.1083(c)(4) of this subpart. (11/99)

(f) The owner or operator shall repair each defect detected during an inspection performed in accordance with the requirements of paragraph (c)(3) or (d)(3) of this section as follows:

(1) The owner or operator shall make first efforts at repair of the defect no later than 5 calendar days after detection, and repair shall be completed as soon as possible but no later than 45 calendar days after detection except as provided in paragraph (f)(2) of this section.

(2) Repair of a defect may be delayed beyond 45 calendar days if the owner or operator determines that repair of the defect requires emptying or temporary removal from service of the surface impoundment and no alternative capacity is available at the site to accept the hazardous waste normally managed in the surface impoundment. In this case, the owner or operator shall repair the defect the next time the process or unit that is generating the hazardous waste managed in the tank stops operation. Repair of the defect shall be completed before the process or unit resumes operation.

(g) Following the initial inspection and monitoring of the cover as required by the applicable provisions of this subpart, subsequent inspection and monitoring may be performed at intervals longer than 1 year in the case when inspecting or monitoring the cover would expose a worker to dangerous, hazardous, or other unsafe conditions. In this case, the owner or operator may designate the cover as an "unsafe to inspect and monitor cover" and comply with all of the following requirements:

(1) Prepare a written explanation for the cover stating the reasons why the cover is unsafe to visually inspect or to monitor, if required.

(2) Develop and implement a written plan and schedule to inspect and monitor the cover using the procedures specified in the applicable section of this subpart as frequently as practicable during those times when a worker can safely access the cover.

265.1087 Standards: Containers

(a) The provisions of this section apply to the control of air pollutant emissions from containers for which 265.1083(b) of this subpart references the use of this section for such air emission control.

(b) General requirements.

(1) The owner or operator shall control air pollutant emissions from each container subject to this section in accordance with the following requirements, as applicable to the container, except when the special provisions for waste stabilization processes specified in paragraph (b)(2) of this section apply to the container.

(i) For a container having a design capacity greater than 0.1 m3 and less than or equal to 0.46 m3, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(ii) For a container having a design capacity greater than 0.46 m3 that is not in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 1 standards specified in paragraph (c) of this section.

(iii) For a container having a design capacity greater than 0.46 m3 that is in light material service, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 2 standards specified in paragraph (d) of this section.

(2) When a container having a design capacity greater than 0.1 m3 is used for treatment of a hazardous waste by a waste stabilization process, the owner or operator shall control air pollutant emissions from the container in accordance with the Container Level 3 standards specified in paragraph (e) of this section at those times during the waste stabilization process when the hazardous waste in the container is exposed to the atmosphere.

(c) Container Level 1 standards.

(1) A container using Container Level 1 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container equipped with a cover and closure devices that form a continuous barrier over the container openings such that when the cover and closure devices are secured in the closed position there are no visible holes, gaps, or other open spaces into the interior of the container. The cover may be a separate cover installed on the container (e.g., a lid on a drum or a suitably secured tarp on a roll-off box) or may be an integral part of the container structural design (e.g., a "portable tank" or bulk cargo container equipped with a screw-type cap).

(iii) An open-top container in which an

organic-vapor suppressing barrier is placed on or over the hazardous waste in the container such that no hazardous waste is exposed to the atmosphere. One example of such a barrier is application of a suitable organic-vapor suppressing foam.

(2) A container used to meet the requirements of paragraph (c)(1)(ii) or (c)(1)(iii) of this section shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the hazardous waste to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered in selecting the materials of construction and designing the cover and closure devices shall include: Organic vapor permeability, the effects of contact with the hazardous waste or its vapor managed in the container; the effects of outdoor exposure of the closure device or cover material to wind, moisture, and sunlight; and the operating practices for which the container is intended to be used.

(3) Whenever a hazardous waste is in a container using Container Level 1 controls, the owner or operator shall install all covers and closure devices for the container, as applicable to the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an empty container as defined in 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the container internal pressure in accordance with the design specifications of the container. The device shall be designed to operate with no detectable organic emissions when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 1 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in 261.7(b)), the owner or operator shall visually inspect

the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subpart CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest in the Appendix to part 262 (EPA Forms 8700-22 and 8700-22A, as required under subpart E of this part, at 265.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section. (11/99)

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (c)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(5) The owner or operator shall maintain at the facility a copy of the procedure used to determine that containers with capacity of 0.46 m3 or greater, which do not meet applicable DOT regulations as specified in paragraph (f) of this section, are not managing hazardous waste in light material service.

(d) Container Level 2 standards.

(1) A container using Container Level 2 controls is one of the following:

(i) A container that meets the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as specified in paragraph (f) of this section.

(ii) A container that operates with no detectable organic emissions as defined in 265.1081 of this subpart and determined in accordance with the procedure specified in paragraph (g) of this section.

(iii) A container that has been demonstrated within the preceding 12 months to be vapor-tight by using 40 CFR part 60, Appendix A, Method 27 in accordance with the procedure specified in paragraph (h) of this section.

(2) Transfer of hazardous waste in or out of a container using Container Level 2 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive or other hazardous materials. Examples of container loading procedures that the EPA considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening.

(3) Whenever a hazardous waste is in a container using Container Level 2 controls, the owner or operator shall install all covers and closure devices for the container, and secure and maintain each closure device in the closed position except as follows:

(i) Opening of a closure device or cover is allowed for the purpose of adding hazardous waste or other material to the container as follows:

(A) In the case when the container is filled to the intended final level in one continuous operation, the owner or operator shall promptly secure the closure devices in the closed position and install the covers, as applicable to the container, upon conclusion of the filling operation.

(B) In the case when discrete quantities or batches of material intermittently are added to the container over a period of time, the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon either the container being filled to the intended final level; the completion of a batch loading after which no additional material will be added to the container within 15 minutes; the person performing the loading operation leaving the immediate vicinity of the container; or the shutdown of the process generating the material being added to the container, whichever condition occurs first.

(ii) Opening of a closure device or cover is allowed for the purpose of removing hazardous waste from the container as follows:

(A) For the purpose of meeting the requirements of this section, an empty container as defined in 261.7(b) may be open to the atmosphere at any time (i.e., covers and closure devices are not required to be secured in the closed position on an empty container).

(B) In the case when discrete quantities or batches of material are removed from the container but the container does not meet the conditions to be an

empty container as defined in 261.7(b), the owner or operator shall promptly secure the closure devices in the closed position and install covers, as applicable to the container, upon the completion of a batch removal after which no additional material will be removed from the container within 15 minutes or the person performing the unloading operation leaves the immediate vicinity of the container, whichever condition occurs first.

(iii) Opening of a closure device or cover is allowed when access inside the container is needed to perform routine activities other than transfer of hazardous waste. Examples of such activities include those times when a worker needs to open a port to measure the depth of or sample the material in the container, or when a worker needs to open a manhole hatch to access equipment inside the container. Following completion of the activity, the owner or operator shall promptly secure the closure device in the closed position or reinstall the cover, as applicable to the container.

(iv) Opening of a spring-loaded, pressure-vacuum relief valve, conservation vent, or similar type of pressure relief device which vents to the atmosphere is allowed during normal operations for the purpose of maintaining the internal pressure of the container in accordance with the container design specifications. The device shall be designed to operate with no detectable organic emission when the device is secured in the closed position. The settings at which the device opens shall be established such that the device remains in the closed position whenever the internal pressure of the container is within the internal pressure operating range determined by the owner or operator based on container manufacturer recommendations, applicable regulations, fire protection and prevention codes, standard engineering codes and practices, or other requirements for the safe handling of flammable, ignitable, explosive, reactive, or hazardous materials. Examples of normal operating conditions that may require these devices to open are during those times when the internal pressure of the container exceeds the internal pressure operating range for the container as a result of loading operations or diurnal ambient temperature fluctuations.

(v) Opening of a safety device, as defined in 265.1081 of this subpart, is allowed at any time conditions require doing so to avoid an unsafe condition.

(4) The owner or operator of containers using Container Level 2 controls shall inspect the containers and their covers and closure devices as follows:

(i) In the case when a hazardous waste already is in the container at the time the owner or operator first accepts possession of the container at the facility and the container is not emptied within 24 hours after the container is accepted at the facility (i.e., does not meet the conditions for an empty container as specified in 261.7(b)) , the owner or operator shall visually inspect the container and its cover and closure devices to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. The container visual inspection shall be conducted on or before the date that the container is accepted at the facility (i.e., the date the container becomes subject to the subpart CC container standards). For purposes of this requirement, the date of acceptance is the date of signature that the facility owner or operator enters on Item 20 of the Uniform Hazardous Waste Manifest in the Appendix to part 262 (Forms 8700-22 and 8700-22A), as required under subpart E of this part, at 265.71. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section. (11/99)

(ii) In the case when a container used for managing hazardous waste remains at the facility for a period of 1 year or more, the owner or operator shall visually inspect the container and its cover and closure devices initially and thereafter, at least once every 12 months, to check for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position. If a defect is detected, the owner or operator shall repair the defect in accordance with the requirements of paragraph (d)(4)(iii) of this section.

(iii) When a defect is detected for the container, cover, or closure devices, the owner or operator shall make first efforts at repair of the defect no later than 24 hours after detection, and repair shall be completed as soon as possible but no later than 5 calendar days after detection. If repair of a defect cannot be completed within 5 calendar days, then the hazardous waste shall be removed from the container and the container shall not be used to manage hazardous waste until the defect is repaired.

(e) Container Level 3 standards.

(1) A container using Container Level 3 controls is one of the following:

(i) A container that is vented directly through a closed-vent system to a control device in accordance with the requirements of paragraph (e)(2)(ii) of this section.

(ii) A container that is vented inside an enclosure which is exhausted through a closed-vent system to a control device in accordance with the requirements of paragraphs (e)(2)(i) and (e)(2)(ii) of this section.

(2) The owner or operator shall meet the following requirements, as applicable to the type of air emission control equipment selected by the owner or operator:

(i) The container enclosure shall be designed and operated in accordance with the criteria for a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B. The enclosure may have permanent or temporary openings to allow worker access; passage of containers through the enclosure by conveyor or other

mechanical means; entry of permanent mechanical or electrical equipment; or direct airflow into the enclosure. The owner or operator shall perform the verification procedure for the enclosure as specified in Section 5.0 to "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" initially when the enclosure is first installed and, thereafter, annually.

(ii) The closed-vent system and control device shall be designed and operated in accordance with the requirements of 265.1088 of this subpart.

(3) Safety devices, as defined in 265.1081 of this subpart, may be installed and operated as necessary on any container, enclosure, closed-vent system, or control device used to comply with the requirements of paragraph (e)(1) of this section.

(4) Owners and operators using Container Level 3 controls in accordance with the provisions of this subpart shall inspect and monitor the closed-vent systems and control devices as specified in 265.1088 of this subpart.

(5) Owners and operators that use Container Level 3 controls in accordance with the provisions of this subpart shall prepare and maintain the records specified in 265.1090(d) of this subpart.

(6) Transfer of hazardous waste in or out of a container using Container Level 3 controls shall be conducted in such a manner as to minimize exposure of the hazardous waste to the atmosphere, to the extent practical, considering the physical properties of the hazardous waste and good engineering and safety practices for handling flammable, ignitable, explosive, reactive, or other hazardous materials. Examples of container loading procedures that the Department considers to meet the requirements of this paragraph include using any one of the following: A submerged-fill pipe or other submerged-fill method to load liquids into the container; a vapor-balancing system or a vapor-recovery system to collect and control the vapors displaced from the container during filling operations; or a fitted opening in the top of a container through which the hazardous waste is filled and subsequently purging the transfer line before removing it from the container opening. (8/00)

(f) For the purpose of compliance with paragraph (c)(1)(i) or (d)(1)(i) of this section, containers shall be used that meet the applicable U.S. Department of Transportation (DOT) regulations on packaging hazardous materials for transportation as follows:

(1) The container meets the applicable requirements specified in 49 CFR part 178-Specifications for Packaging or 49 CFR part 179-Specifications for Tank Cars.

(2) Hazardous waste is managed in the container in accordance with the applicable requirements specified in 49 CFR part 107, subpart B-Exemptions; 49 CFR part 172-Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements; 49 CFR part 173-Shippers-General Requirements for Shipments and Packages; and 49 CFR part 180-Continuing Qualification and Maintenance of Packagings.

(3) For the purpose of complying with this subpart, no exceptions to the 49 CFR part 178 or part 179 regulations are allowed except as provided for in paragraph (f)(4) of this section.

(4) For a lab pack that is managed in accordance with the requirements of 49 CFR part 178 for the purpose of complying with this subpart, an owner or operator may comply with the exceptions for combination packagings specified in 49 CFR 173.12(b).

(g) To determine compliance with the no detectable organic emissions requirements of paragraph (d)(1)(ii) of this section, the procedure specified in 265.1084(d) of this subpart shall be used. (11/99)

(1) Each potential leak interface (i.e., a location where organic vapor leakage could occur) on the container, its cover, and associated closure devices, as applicable to the container, shall be checked. Potential leak interfaces that are associated with containers include, but are not limited to: The interface of the cover rim and the container wall; the periphery of any opening on the container or container cover and its associated closure device; and the sealing seat interface on a spring-loaded pressure-relief valve.

(2) The test shall be performed when the container is filled with a material having a volatile organic concentration representative of the range of volatile organic concentrations for the hazardous wastes expected to be managed in this type of container. During the test, the container cover and closure devices shall be secured in the closed position.

(h) Procedure for determining a container to be vapor-tight using Method 27 of 40 CFR part 60, Appendix A for the purpose of complying with paragraph (d)(1)(iii) of this section.

(1) The test shall be performed in accordance with Method 27 of 40 CFR part 60, Appendix A of this chapter.

(2) A pressure measurement device shall be used that has a precision of ∀2.5 mm water and that is capable of measuring above the pressure at which the container is to be tested for vapor tightness.

(3) If the test results determined by Method 27 indicate that the container sustains a pressure change less than or equal to 750 Pascals within 5 minutes after it is pressurized to a minimum of 4,500 Pascals, then the container is determined to be vapor-tight.

265.1088 Standards: Closed-vent systems and control devices

(a) This section applies to each closed-vent system and control device installed and operated by the owner or operator to control air emissions in accordance with standards of this subpart.

(b) The closed-vent system shall meet the following requirements:

(1) The closed-vent system shall route the gases, vapors, and fumes emitted from the hazardous waste in the waste management unit to a control device that meets the requirements specified in paragraph (c) of this section.

(2) The closed-vent system shall be designed and operated in accordance with the requirements specified in 265.1033(j) of this part.

(3) In the case when the closed-vent system includes bypass devices that could be used to divert the gas or vapor stream to the atmosphere before entering the control device, each bypass device shall be equipped with either a flow indicator as specified in paragraph (b)(3)(i) of this section or a seal or locking device as specified in paragraph (b)(3)(ii) of this section. For the purpose of complying with this paragraph, low leg drains, high point bleeds, analyzer vents, open-ended valves or lines, spring-loaded pressure relief valves, and other fittings used for safety purposes are not considered to be bypass devices.

(i) If a flow indicator is used to comply with paragraph (b)(3) of this section, the indicator shall be installed at the inlet to the bypass line used to divert gases and vapors from the closed-vent system to the atmosphere at a point upstream of the control device inlet. For this paragraph, a flow indicator means a device which indicates the presence of either gas or vapor flow in the bypass line.

(ii) If a seal or locking device is used to comply with paragraph (b)(3) of this section, the device shall be placed on the mechanism by which the bypass device position is controlled (e.g., valve handle, damper lever) when the bypass device is in the closed position such that the bypass device cannot be opened without breaking the seal or removing the lock. Examples of such devices include, but are not limited to, a car-seal or a lock-and-key configuration valve. The owner or operator shall visually inspect the seal or closure mechanism at least once every month to verify that the bypass mechanism is maintained in the closed position.

(4) The closed-vent system shall be inspected and monitored by the owner or operator in accordance with the procedure specified in 265.1033(k).

(c) The control device shall meet the following requirements:

(1) The control device shall be one of the following devices:

(i) A control device designed and operated to reduce the total organic content of the inlet vapor stream vented to the control device by at least 95 percent by weight;

(ii) An enclosed combustion device designed and operated in accordance with the requirements of 265.1033(c); or

(iii) A flare designed and operated in accordance with the requirements of 265.1033(d).

(2) The owner or operator who elects to use a closed-vent system and control device to comply with the requirements of this section shall comply with the requirements specified in paragraphs (c)(2)(i) through (c)(2)(vi) of this section.

(i) Periods of planned routine maintenance of the control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year.

(ii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during periods of planned routine maintenance.

(iii) The specifications and requirements in paragraphs (c)(1)(i), (c)(1)(ii), and (c)(1)(iii) of this section for control devices do not apply during a control device system malfunction.

(iv) The owner or operator shall demonstrate compliance with the requirements of paragraph (c)(2)(i) of this section (i.e., planned routine maintenance of a control device, during which the control device does not meet the specifications of paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this section, as applicable, shall not exceed 240 hours per year) by recording the information specified in 265.1090(e)(1)(v) of this subpart.

(v) The owner or operator shall correct control device system malfunctions as soon as practicable after their occurrence in order to minimize excess emissions of air pollutants.

(vi) The owner or operator shall operate the closed-vent system such that gases, vapors, and/or fumes are not actively vented to the control device during periods of planned maintenance or control device system malfunction (i.e., periods when the control device is not operating or not operating normally) except in cases when it is necessary to vent the gases, vapors, or fumes to avoid an unsafe condition or to implement malfunction corrective actions or planned maintenance actions.

(3) The owner or operator using a carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the following requirements:

(i) Following the initial startup of the control device, all activated carbon in the control device shall be replaced with fresh carbon on a regular basis in accordance with the requirements of 265.1033(g) or 265.1033(h).

(ii) All carbon that is a hazardous waste and that is removed from the control device shall be managed in accordance with the requirements of 265.1033(m), regardless of the average volatile organic concentration of the carbon. (11/99)

(4) An owner or operator using a control device other than a thermal vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with paragraph (c)(1) of this section shall operate and maintain the control device in accordance with the requirements of 265.1033(i).

(5) The owner or operator shall demonstrate that a control device achieves the performance requirements of paragraph (c)(1) of this section as follows:

(i) An owner or operator shall demonstrate using either a performance test as specified in paragraph (c)(5)(iii) of this section or a design analysis as specified in paragraph (c)(5)(iv) of this section the performance of each control device except for the following:

(A) A flare;

(B) A boiler or process heater with a design heat input capacity of 44 megawatts or greater;

(C) A boiler or process heater into which the vent stream is introduced with the primary fuel;

(D) A boiler or industrial furnace burning hazardous waste for which the owner or operator has been issued a final permit under part 270 and has designed and operates the unit in accordance with the requirements of part 266, subpart H; or

(E) A boiler or industrial furnace burning hazardous waste for which the owner or operator has designed and operates in accordance with the interim status requirements of part 266, subpart H.

(ii) An owner or operator shall demonstrate the performance of each flare in accordance with the requirements specified in 265.1033(e).

(iii) For a performance test conducted to meet the requirements of paragraph (c)(5)(i) of this section, the owner or operator shall use the test methods and procedures specified in 265.1034(c)(1) through (c)(4).

(iv) For a design analysis conducted to meet the requirements of paragraph (c)(5)(i) of this section, the design analysis shall meet the requirements specified in 265.1035(b)(4)(iii).

(v) The owner or operator shall demonstrate that a carbon adsorption system achieves the performance requirements of paragraph (c)(1) of this section based on the total quantity of organics vented to the atmosphere from all carbon adsorption system equipment that is used for organic adsorption, organic desorption or carbon regeneration, organic recovery, and carbon disposal.

(6) If the owner or operator and the Department do not agree on a demonstration of control device performance using a design analysis then the disagreement shall be resolved using the results of a performance test performed by the owner or operator in accordance with the requirements of paragraph (c)(5)(iii) of this section. The Department may choose to have an authorized representative observe the performance test.

(7) The closed-vent system and control device shall be inspected and monitored by the owner or operator in accordance with the procedures specified in 265.1033(f)(2) and 265.1033(k). The readings from each monitoring device required by 265.1033(f)(2) shall be inspected at least once each operating day to check control device operation. Any necessary corrective measures shall be immediately implemented to ensure the control device is operated in compliance with the requirements of this section. (11/99)

265.1089 Inspection and monitoring requirements

(a) The owner or operator shall inspect and monitor air emission control equipment used to comply with this subpart in accordance with the applicable requirements specified in 265.1085 through 265.1088 of this subpart.

(b) The owner or operator shall develop and implement a written plan and schedule to perform the inspections and monitoring required by paragraph (a) of this section. The owner or operator shall incorporate this plan and schedule into the facility inspection plan required under 265.15.

265.1090 Recordkeeping requirements

(a) Each owner or operator of a facility subject to requirements in this subpart shall record and maintain the information specified in paragraphs (b) through (j) of this section, as applicable to the facility. Except for air emission control equipment design documentation and information required by paragraphs (i) and (j) of this section, records required by this section shall be maintained in the operating record for a minimum of 3 years. Air emission control equipment design documentation shall be maintained in the operating record until the air emission control equipment is replaced or otherwise no longer in service. Information required by paragraphs (i) and (j) of this section shall be maintained in the operating record for as long as the waste management unit is not using air emission controls specified in 265.1085 through 265.1088 of this subpart in accordance with the conditions specified in 265.1080(d) or 265.1080(b)(7), respectively. (9/01)

(b) The owner or operator of a tank using air emission controls in accordance with the requirements of 265.1085 of this subpart shall prepare and maintain records for the tank that include the following information:

(1) For each tank using air emission controls in accordance with the requirements of 265.1085 of this subpart, the owner or operator shall record:

(i) A tank identification number (or other unique identification description as selected by the owner or operator).

(ii) A record for each inspection required by 265.1085 of this subpart that includes the following information:

(A) Date inspection was conducted.

(B) For each defect detected during the inspection, the location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of 265.1085 of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected. (11/99)

(2) In addition to the information required by

paragraph (b)(1) of this section, the owner or operator shall record the following information, as applicable to the tank:

(i) The owner or operator using a fixed roof to comply with the Tank Level 1 control requirements specified in 265.1085(c) of this subpart shall prepare and maintain records for each determination for the maximum organic vapor pressure of the hazardous waste in the tank performed in accordance with the requirements of 265.1085(c) of this subpart. The records shall include the date and time the samples were collected, the analysis method used, and the analysis results.

(ii) The owner or operator using an internal floating roof to comply with the Tank Level 2 control requirements specified in 265.1085(e) of this subpart shall prepare and maintain documentation describing the floating roof design.

(iii) Owners and operators using an external floating roof to comply with the Tank Level 2 control requirements specified in 265.1085(f) of this subpart shall prepare and maintain the following records:

(A) Documentation describing the floating roof design and the dimensions of the tank.

(B) Records for each seal gap inspection required by 265.1085(f)(3) of this subpart describing the results of the seal gap measurements. The records shall include the date that the measurements were performed, the raw data obtained for the measurements, and the calculations of the total gap surface area. In the event that the seal gap measurements do not conform to the specifications in 265.1085(f)(1) of this subpart, the records shall include a description of the repairs that were made, the date the repairs were made, and the date the tank was emptied, if necessary.

(iv) Each owner or operator using an enclosure to comply with the Tank Level 2 control requirements specified in 265.1085(i) of this subpart shall prepare and maintain the following records:

(A) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741 Appendix B.

(B) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(c) The owner or operator of a surface impoundment using air emission controls in accordance with the requirements of 265.1086 of this subpart shall prepare and maintain records for the surface impoundment that include the following information:

(1) A surface impoundment identification number (or other unique identification description as selected by the owner or operator).

(2) Documentation describing the floating membrane cover or cover design, as applicable to the surface impoundment, that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in 265.1086(c) of this subpart.

(3) A record for each inspection required by 265.1086 of this subpart that includes the following information:

(i) Date inspection was conducted.

(ii) For each defect detected during the inspection the following information: The location of the defect, a description of the defect, the date of detection, and corrective action taken to repair the defect. In the event that repair of the defect is delayed in accordance with the provisions of 265.1086(f) of this subpart, the owner or operator shall also record the reason for the delay and the date that completion of repair of the defect is expected.

(4) For a surface impoundment equipped with a cover and vented through a closed-vent system to a control device, the owner or operator shall prepare and maintain the records specified in paragraph (e) of this section.

(d) The owner or operator of containers using Container Level 3 air emission controls in accordance with the requirements of 265.1087 of this subpart shall prepare and maintain records that include the following information:

(1) Records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, Appendix B.

(2) Records required for the closed-vent system and control device in accordance with the requirements of paragraph (e) of this section.

(e) The owner or operator using a closed-vent system and control device in accordance with the requirements of 265.1088 of this subpart shall prepare and maintain records that include the following information:

(1) Documentation for the closed-vent system and control device that includes:

(i) Certification that is signed and dated by the owner or operator stating that the control device is designed to operate at the performance level documented by a design analysis as specified in paragraph (e)(1)(ii) of this section or by performance tests as specified in paragraph (e)(1)(iii) of this section when the tank, surface impoundment, or container is or would be operating at capacity or the highest level reasonably expected to occur.

(ii) If a design analysis is used, then design documentation as specified in 265.1035(b)(4). The documentation shall include information prepared by the

owner or operator or provided by the control device manufacturer or vendor that describes the control device design in accordance with 265.1035(b)(4)(iii) and certification by the owner or operator that the control equipment meets the applicable specifications.

(iii) If performance tests are used, then a performance test plan as specified in 265.1035(b)(3) and all test results.

(iv) Information as required by 265.1035(c)(1) and 265.1035(c)(2), as applicable.

(v) An owner or operator shall record, on a semiannual basis, the information specified in paragraphs (e)(1)(v)(A) and (e)(1)(v)(B) of this section for those planned routine maintenance operations that would require the control device not to meet the requirements of 265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) A description of the planned routine maintenance that is anticipated to be performed for the control device during the next 6-month period. This description shall include the type of maintenance necessary, planned frequency of maintenance, and lengths of maintenance periods.

(B) A description of the planned routine maintenance that was performed for the control device during the previous 6-month period. This description shall include the type of maintenance performed and the total number of hours during those 6 months that the control device did not meet the requirements of 265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable, due to planned routine maintenance.

(vi) An owner or operator shall record the information specified in paragraphs (e)(1)(vi)(A) through (e)(1)(vi)(C) of this section for those unexpected control device system malfunctions that would require the control device not to meet the requirements of 265.1088 (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this subpart, as applicable.

(A) The occurrence and duration of each malfunction of the control device system.

(B) The duration of each period during a malfunction when gases, vapors, or fumes are vented from the waste management unit through the closed-vent system to the control device while the control device is not properly functioning.

(C) Actions taken during periods of malfunction to restore a malfunctioning control device to its normal or usual manner of operation.

(vii) Records of the management of carbon removed from a carbon adsorption system conducted in accordance with 265.1088(c)(3)(ii) of this subpart.

(f) The owner or operator of a tank, surface impoundment, or container exempted from standards in accordance with the provisions of 265.1083(c) of this subpart shall prepare and maintain the following records, as applicable:

(1) For tanks, surface impoundments, or containers exempted under the hazardous waste organic concentration conditions specified in 265.1083(c)(1) or 265.1083(c)(2)(i) through (c)(2)(vi) of this subpart, the owner or operator shall record the information used for each waste determination (e.g., test results, measurements, calculations, and other documentation) in the facility operating log. If analysis results for waste samples are used for the waste determination, then the owner or operator shall record the date, time, and location that each waste sample is collected in accordance with applicable requirements of 265.1084 of this subpart. (11/99)

(2) For tanks, surface impoundments, or containers exempted under the provisions of 265.1083(c)(2)(vii) or 265.1083(c)(2)(viii) of this subpart, the owner or operator shall record the identification number for the incinerator, boiler, or industrial furnace in which the hazardous waste is treated. (8/00)

(g) An owner or operator designating a cover as "unsafe to inspect and monitor" pursuant to 265.1085(l) or 265.1086(g) of this subpart shall record in a log that is kept in the facility operating record the following information: The identification numbers for waste management units with covers that are designated as "unsafe to inspect and monitor," the explanation for each cover stating why the cover is unsafe to inspect and monitor, and the plan and schedule for inspecting and monitoring each cover.

(h) The owner or operator of a facility that is subject to this subpart and to the control device standards in 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to demonstrate compliance with the applicable sections of this subpart by documentation either pursuant to this subpart, or pursuant to the provisions of 40 CFR part 60, subpart VV or 40 CFR part 61, subpart V, to the extent that the documentation required by parts 60 or 61 duplicates the documentation required by this section.

(i) For each tank or container not using air emission controls specified in 265.1085 through 265.1088 of this subpart in accordance with the conditions specified in 265.1080(d) of this subpart, the owner or operator shall record and maintain the following information:

(1) A list of the individual organic peroxide compounds manufactured at the facility that meet the conditions specified in 265.1080(d)(1).

(2) A description of how the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section are managed at the facility in tanks and containers. This description shall include the following information:

(i) For the tanks used at the facility to manage this hazardous waste, sufficient information shall be provided to describe for each tank: A facility identification number for the tank; the purpose and placement of this tank in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste managed in the tanks.

(ii) For containers used at the facility to

manage these hazardous wastes, sufficient information shall be provided to describe: A facility identification number for the container or group of containers; the purpose and placement of this container, or group of containers, in the management train of this hazardous waste; and the procedures used to ultimately dispose of the hazardous waste handled in the containers.

(3) An explanation of why managing the hazardous waste containing the organic peroxide compounds identified in paragraph (i)(1) of this section in the tanks and containers as described in paragraph (i)(2) of this section would create an undue safety hazard if the air emission controls, as required under 265.1085 through 265.1088 of this subpart, are installed and operated on these waste management units. This explanation shall include the following information:

(i) For tanks used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the tanks would affect the tank design features and facility operating procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the tanks; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of tanks equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(ii) For containers used at the facility to manage these hazardous wastes, sufficient information shall be provided to explain: How use of the required air emission controls on the containers would affect the container design features and handling procedures currently used to prevent an undue safety hazard during the management of this hazardous waste in the containers; and why installation of safety devices on the required air emission controls, as allowed under this subpart, will not address those situations in which evacuation of containers equipped with these air emission controls is necessary and consistent with good engineering and safety practices for handling organic peroxides.

(j) For each hazardous waste management unit not using air emission controls specified in 265.1085 through 265.1088 of this subpart in accordance with the provisions of 265.1080(b)(7) of this subpart, the owner and operator shall record and maintain the following information: (11/99)

(1) Certification that the waste management unit is equipped with and operating air emission controls in accordance with the requirements of an applicable Clean Air Act regulation codified under 40 CFR part 60, part 61, or part 63.

(2) Identification of the specific requirements codified under 40 CFR part 60, part 61, or part 63 with which the waste management unit is in compliance.

265.1091 [Reserved 9/98]

Subpart DD - CONTAINMENT BUILDINGS

265.1100 Applicability

The requirements of this subpart apply to owners or operators who store or treat hazardous waste in units designed and operated under 265.1101 of this subpart. The owner or operator is not subject to the definition of land disposal in RCRA section 3004(k) provided that the unit: (12/93)

(a) Is a completely enclosed, self-supporting structure that is designed and constructed of manmade materials of sufficient strength and thickness to support themselves, the waste contents, and any personnel and heavy equipment that operate within the units, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls;

(b) Has a primary barrier that is designed to be sufficiently durable to withstand the movement of personnel and handling equipment within the unit;

(c) If the unit is used to manage liquids, has:

(1) A primary barrier designed and constructed of materials to prevent migration of hazardous constituents into the barrier;

(2) A liquid collection system designed and constructed of materials to minimize the accumulation of liquid on the primary barrier; and

(3) A secondary containment system designed and constructed of materials to prevent migration of hazardous constituents into the barrier, with a leak detection and liquid collection system capable of detecting, collecting, and removing leaks of hazardous constituents at the earliest possible time, unless the unit has been granted a variance from the secondary containment system requirements under 265.1101(b)(4);

(d) Has controls as needed to prevent fugitive dust emissions; and

(e) Is designed and operated to ensure containment and prevent the tracking of materials from the unit by personnel or equipment.

265.1101 Design and operating standards

(a) All containment buildings must comply with the following design standards: (12/93)

(1) The containment building must be completely enclosed with a floor, walls, and a roof to prevent exposure to the elements, (e.g., precipitation, wind, run-on), and to assure containment of managed wastes.

(2) The floor and containment walls of the unit, including the secondary containment system if required under paragraph (b) of this section, must be designed and constructed of materials of sufficient strength and thickness to support themselves, the waste contents, and

any personnel and heavy equipment that operate within the unit, and to prevent failure due to pressure gradients, settlement, compression, or uplift, physical contact with the hazardous wastes to which they are exposed; climatic conditions; and the stresses of daily operation, including the movement of heavy equipment within the unit and contact of such equipment with containment walls. The unit must be designed so that it has sufficient structural strength to prevent collapse or other failure. All surfaces to be in contact with hazardous wastes must be chemically compatible with those wastes. The Department and EPA will consider standards established by professional organizations generally recognized by the industry such as the American Concrete Institute (ACI) and the American Society of Testing Materials (ASTM) in judging the structural integrity requirements of this paragraph. If appropriate to the nature of the waste management operation to take place in the unit, an exception to the structural strength requirement may be made for lightweight doors and windows that meet these criteria:

(i) They provide an effective barrier against fugitive dust emissions under paragraph (c)(1)(iv); and

(ii) The unit is designed and operated in a fashion that assures that wastes will not actually come in contact with these openings.

(3) Incompatible hazardous wastes or treatment reagents must not be placed in the unit or its secondary containment system if they could cause the unit or secondary containment system to leak, corrode, or otherwise fail.

(4) A containment building must have a primary barrier designed to withstand the movement of personnel, waste, and handling equipment in the unit during the operating life of the unit and appropriate for the physical and chemical characteristics of the waste to be managed.

(b) For a containment building used to manage hazardous wastes containing free liquids or treated with free liquids (the presence of which is determined by the paint filter test, a visual examination, or other appropriate means), the owner or operator must include:

(1) A primary barrier designed and constructed of materials to prevent the migration of hazardous constituents into the barrier (e.g. a geomembrane covered by a concrete wear surface).

(2) A liquid collection and removal system to prevent the accumulation of liquid on the primary barrier of the containment building:

(i) The primary barrier must be sloped to drain liquids to the associated collection system; and

(ii) Liquids and waste must be collected and removed to minimize hydraulic head on the containment system at the earliest practicable time that protects human health and the environment.

(3) A secondary containment system including a secondary barrier designed and constructed to prevent migration of hazardous constituents into the barrier, and a leak detection system that is capable of detecting failure of the primary barrier and collecting accumulated hazardous wastes and liquids at the earliest practicable time.

(i) The requirements of the leak detection component of the secondary containment system are satisfied by installation of a system that is, at a minimum:

(A) Constructed with a bottom slope of 1 percent or more; and

(B) Constructed of a granular drainage material with a hydraulic conductivity of $1x10^{-2}$ cm/sec or more and a thickness of 12 inches (30.5 cm) or more, or constructed of synthetic or geonet drainage materials with a transmissivity of $3x10^{-5}$ m^2/sec or more.

(ii) If treatment is to be conducted in the building, an area in which such treatment will be conducted must be designed to prevent the release of liquids, wet materials, or liquid aerosols to other portions of the building.

(iii) The secondary containment system must be constructed of materials that are chemically resistant to the waste and liquids managed in the containment building and of sufficient strength and thickness to prevent collapse under the pressure exerted by overlaying materials and by any equipment used in the containment building. (Containment buildings can serve as secondary containment systems for tanks placed within the building under certain conditions. A containment building can serve as an external liner system for a tank, provided it meets the requirements of 265.193(e)(1). In addition, the containment building must meet the requirements of 265.193 (b) and (c) to be considered an acceptable secondary containment system for a tank.)

(4) For existing units other than 90-day generator units, the Department may delay the secondary containment requirement for up to two years, based on a demonstration by the owner or operator that the unit substantially meets the standards of this Subpart. In making this demonstration, the owner or operator must:

(i) Provide written notice to the Department of their request by February 18, 1993. This notification must describe the unit and its operating practices with specific reference to the performance of existing containment systems, and specific plans for retrofitting the unit with secondary containment;

(ii) Respond to any comments from the Department on these plans within 30 days; and

(iii) Fulfill the terms of the revised plans, if such plans are approved by the Department.

(c) Owners or operators of all containment buildings must:

(1) Use controls and practices to ensure containment of the hazardous waste within the unit; and, at a minimum:

(i) Maintain the primary barrier to be free of significant cracks, gaps, corrosion, or other deterioration

that could cause hazardous waste to be released from the primary barrier;

(ii) Maintain the level of the stored/treated hazardous waste within the containment walls of the unit so that the height of any containment wall is not exceeded;

(iii) Take measures to prevent the tracking of hazardous waste out of the unit by personnel or by equipment used in handling the waste. An area must be designated to decontaminate equipment and any rinsate must be collected and properly managed; and

(iv) Take measures to control fugitive dust emissions such that any openings (doors, windows, vents, cracks, etc.) exhibit no visible emissions. In addition, all associated particulate collection devices (e.g., fabric filter, electrostatic precipitator) must be operated and maintained with sound air pollution control practices. This state of no visible emissions must be maintained effectively at all times during normal operating conditions, including when vehicles and personnel are entering and exiting the unit.

(2) Obtain and keep on-site a certification by a qualified Professional Engineer that the containment building design meets the requirements of paragraphs (a), (b), and (c) of this section.

(3) Throughout the active life of the containment building, if the owner or operator detects a condition that could lead to or has caused a release of hazardous waste, the owner or operator must repair the condition promptly, in accordance with the following procedures.

(i) Upon detection of a condition that has led to a release of hazardous waste (e.g., upon detection of leakage from the primary barrier) the owner or operator must:

(A) Enter a record of the discovery in the facility operating record;

(B) Immediately remove the portion of the containment building affected by the condition from service;

(C) Determine what steps must be taken to repair the containment building, remove any leakage from the secondary collection system, and establish a schedule for accomplishing the cleanup and repairs; and

(D) Within 7 days after the discovery of the condition, notify the Department of the condition, and within 14 working days, provide a written notice to the Department with a description of the steps taken to repair the containment building, and the schedule for accomplishing the work.

(ii) The Department will review the information submitted, make a determination regarding whether the containment building must be removed from service completely or partially until repairs and cleanup are complete, and notify the owner or operator of the determination and the underlying rationale in writing.

(iii) Upon completing all repairs and cleanup the owner or operator must notify the Department in writing and provide a verification, signed by a qualified, registered professional engineer, that the repairs and cleanup have been completed according to the written plan submitted in accordance with paragraph (c)(3)(i)(D) of this section.

(4) Inspect and record in the facility's operating record at least once every seven days, data gathered from monitoring and leak detection equipment as well as the containment building and the area immediately surrounding the containment building to detect signs of releases of hazardous waste.

(d) For a containment building that contains both areas with and without secondary containment, the owner or operator must:

(1) Design and operate each area in accordance with the requirements enumerated in paragraphs (a) through (c) of this section;

(2) Take measures to prevent the release of liquids or wet materials into areas without secondary containment; and

(3) Maintain in the facility's operating log a written description of the operating procedures used to maintain the integrity of areas without secondary containment.

(e) Notwithstanding any other provision of this subpart, the Department may waive requirements for secondary containment for a permitted containment building where the owner or operator demonstrates that the only free liquids in the unit are limited amounts of dust suppression liquids required to meet occupational health and safety requirements, and where containment of managed wastes and liquids can be assured without a secondary containment system.

265.1102 Closure and post-closure care

(a) At closure of a containment building, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless section 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for containment buildings must meet all of the requirements specified in subparts G and H of this part. (12/93)

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (265.310). In addition, for the purposes of closure, post-closure, and financial responsibility, such a containment building is then considered to be a landfill, and the owner or operator must meet all of the requirements for

landfills specified in subparts G and H of this part.

265.1103 - 265.1110 [Reserved]

Subpart EE - HAZARDOUS WASTE MUNITIONS AND EXPLOSIVES STORAGE

265.1200 Applicability

The requirements of this subpart apply to owners or operators who store munitions and explosive hazardous wastes, except as 265.1 provides otherwise. (NOTE: Depending on explosive hazards, hazardous waste munitions and explosives may also be managed in other types of storage units, including containment buildings (part 265, subpart DD), tanks (part 265, subpart J), or containers (part 265, subpart I); See 266.205 for storage of waste military munitions). (9/98)

265.1201 Design and operating standards

(a) Hazardous waste munitions and explosives storage units must be designed and operated with containment systems, controls, and monitoring, that:

(1) Minimize the potential for detonation or other means of release of hazardous waste, hazardous constituents, hazardous decomposition products, or contaminated runoff, to the soil, ground water, surface water, and atmosphere;

(2) Provide a primary barrier, which may be a container (including a shell) or tank, designed to contain the hazardous waste;

(3) For wastes stored outdoors, provide that the waste and containers will not be in standing precipitation;

(4) For liquid wastes, provide a secondary containment system that assures that any released liquids are contained and promptly detected and removed from the waste area, or vapor detection system that assures that any released liquids or vapors are promptly detected and an appropriate response taken (e.g., additional containment, such as overpacking, or removal from the waste area); and

(5) Provide monitoring and inspection procedures that assure the controls and containment systems are working as designed and that releases that may adversely impact human health or the environment are not escaping from the unit.

(b) Hazardous waste munitions and explosives stored under this subpart may be stored in one of the following:

(1) Earthcovered magazines. Earthcovered magazines must be:

(i) Constructed of waterproofed, reinforced concrete or structural steel arches, with steel doors that are kept closed when not being accessed;

(ii) Designed and constructed:

(A) To be of sufficient strength and thickness to support the weight of any explosives or munitions stored and any equipment used in the unit;

(B) To provide working space for personnel and equipment in the unit; and

(C) To withstand movement activities that occur in the unit; and

(iii) Located and designed, with walls and earthen covers that direct an explosion in the unit in a safe direction, so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(2) Aboveground magazines. Aboveground magazines must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(3) Outdoor or open storage areas. Outdoor or open storage areas must be located and designed so as to minimize the propagation of an explosion to adjacent units and to minimize other effects of any explosion.

(c) Hazardous waste munitions and explosives must be stored in accordance with a Standard Operating Procedure specifying procedures to ensure safety, security, and environmental protection. If these procedures serve the same purpose as the security and inspection requirements of 265.14, the preparedness and prevention procedures of part 265, subpart C, and the contingency plan and emergency procedures requirements of part 265, subpart D, then these procedures will be used to fulfill those requirements.

(d) Hazardous waste munitions and explosives must be packaged to ensure safety in handling and storage.

(e) Hazardous waste munitions and explosives must be inventoried at least annually.

(f) Hazardous waste munitions and explosives and their storage units must be inspected and monitored as necessary to ensure explosives safety and to ensure that there is no migration of contaminants out of the unit.

265.1202 Closure and postclosure care

(a) At closure of a magazine or unit which stored hazardous waste under this subpart, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components, contaminated subsoils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless 261.3(d) of this chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for magazines or units must meet all of the requirements specified in subparts G and H of this part, except that the owner or operator may defer closure of the unit as long as it remains in service as a munitions or explosives magazine or storage unit.

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he or she must close the facility and perform postclosure care in accordance with the closure

and postclosure requirements that apply to landfills (264.310).

Appendix I - Recordkeeping Instructions

The recordkeeping provisions of 265.73 specify that an owner or operator must keep a written operating record at his facility. This Appendix provides additional instructions for keeping portions of the operating record. See 265.73(b) for additional recordkeeping requirements. (revised 12/92)

The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

(1) A description by its common name and the EPA Hazardous Waste Number(s) from part 261 of this chapter which apply to the waste. The waste description also must include the waste's physical form, i.e., liquid, sludge, solid, or contained gas. If the waste is not listed in part 261 subpart D, of this chapter, the description also must include the process that produced it (for example, solid filter cake from production of xxx, EPA Hazardous Waste Number W051).

Each hazardous waste listed in part 261, subpart D, of this chapter, and each hazardous waste characteristic defined in part 261, subpart C, of this chapter, has a four-digit EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1: (revised 12/94)

(3) The methods (by handling code/s as specified in Table 2) and date(s) of treatment, storage or disposal. (revised 12/94)

Appendix I - Table 1 Units of Measure

[1] Single digit symbols are used here for data processing purposes.

Units of Measure (12/94)	Code[1]
Gallons	G
Gallons per Hour	E
Gallons per Day	U
Liters	L
Liters per Hour	H
Liters per Day	V
Short Tons per Hour	D
Metric Tons per Hour	W
Short Tons per Day	N
Metric Tons per Day	S
Pounds per Hour	J
Kilograms per Hour	R
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
Btu's per Hour	I

Appendix I - Table 2 - Handling Codes For Treatment, Storage, And Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store or dispose of each quantity of hazardous waste received. (12/94)

1. Storage
S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Drip Pad
S06 Containment Building (Storage)
S99 Other Storage (Specify)

2. Treatment
(a) Thermal Treatment -
T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T18 Other (specify)

(b) Chemical Treatment-
T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical Oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment-
(1) Separation of components:
T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting

T39	Encapsulation
T40	Filtration
T41	Flocculation
T42	Flotation
T43	Foaming
T44	Sedimentation
T45	Thickening
T46	Ultrafiltration
T47	Other (specify)
(2)	Removal of Specific Components:
T48	Absorption-molecular sieve
T49	Activated carbon
T50	Blending
T51	Catalysis
T52	Crystallization
T53	Dialysis
T54	Distillation
T55	Electrodialysis
T56	Electrolysis
T57	Evaporation
T58	High gradient magnetic separation
T59	Leaching
T60	Liquid Ion exchange
T61	Liquid-liquid extraction
T62	Reverse osmosis
T63	Solvent recovery
T64	Stripping
T65	Sand filter
T66	Other (specify)
(d)	Biological Treatment
T67	Activated sludge
T68	Aerobic lagoon
T69	Aerobic tank
T70	Anaerobic tank
T71	Composting
T72	Septic Tank
T73	Spray irrigation
T74	Thickening filter
T75	Trickling filter
T76	Waste stabilization pond
T77	Other (specify)
T78	[Reserved]
T79	[Reserved]
(e)	Boilers and Industrial Furnaces
T80	Boiler
T81	Cement Kiln
T82	Lime Kiln
T83	Aggregate Kiln
T84	Phosphate Kiln
T85	Coke Oven
T86	Blast Furnace
T87	Smelting, Melting, or Refining Furnace
T88	Titanium Dioxide Chloride Process Oxidation Reactor
T89	Methane Reforming Furnace
T90	Pulping Liquor Recovery Furnace
T91	Combustion Device Used in the recovery of Sulfur Values from Spent Sulfuric Acid
T92	Halogen Acid Furnaces
T93	Other Industrial Furnaces Listed in 260.10 (specify)
(f)	Other Treatment
T94	Containment Building (Treatment)
3.	Disposal
D79	Underground Injection
D80	Landfill
D81	Land Treatment
D82	Ocean Disposal
D83	Surface Impoundment (to be closed as a landfill)
D99	Other Disposal (specify)
4.	Miscellaneous
X01	Open Burning/Open Detonation
X02	Mechanical Processing
X03	Thermal Unit
X04	Geologic Repository
X99	Other (specify)

Appendix II - [Reserved]

Appendix III - EPA Interim Primary Drinking Water Standards

Parameter	Max. level (mg/l)
Arsenic	0.05
Barium.....	1.0
Cadmium.....	0.01
Chromium.....	0.05
Fluoride.....	1.4 to 2.4
Lead.....	0.05
Mercury.....	0.002
Nitrate (as N).....	10.
Selenium.....	0.01
Silver.....	0.05
Endrin.....	0.0002
Lindane.....	0.004
Methoxychlor.....	0.1
Toxaphene.....	0.005
2,4-D.....	0.1
2,4,5-TP Silver.....	0.01
Radium.....	5. pCi/1
GrossAlpha.....	15. pCi/1
Gross Beta.....	4. millirem/yr
Turbidity.....	1/TU
Coliform Bacteria....	1/100 ml

[Comment: Turbidity is applicable only to surface water supplies.]

Appendix IV - Tests For Significance

As required in 265.93(b) the owner or operator must use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic groundwater samples when compared to the initial background concentration or value of that indicator parameter. The comparison must consider individually each of the wells in the monitoring system. For three of the indicator parameters (specific conductance, total organic carbon, and total organic halogen) a single-tailed Student's t-test must be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH must be a two-tailed Student's t-test at the overall 0.01 level of significance.

The student's t-test involves calculation of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of four replicate measurements) of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic must then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

Appendix V - Examples Of Potentially Incompatible Waste

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalines	
Lime wastewater	Pickling liquor and other corrosive acids
Lime and water	Spent acid
Spent caustic	Spent mixed acid
	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A	Group 2-B
Aluminum	Any waste in Group 1-A or 1-B
Beryllium	
Calcium	
Lithium	
Magnesium	
Potassium	
Sodium	
Zinc powder	
Other reactive metals and metal hydrides	

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols	Any concentrated waste in Groups 1-A or 1-B
Water	Calcium
	Lithium
	Metal hydrides
	Potassium
	SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3
	Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A	Group 4-B
Alcohols	Concentrated Group 1-A or 1-B wastes
Aldehydes	Group 2-A wastes
Halogenated hydrocarbons	
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents	

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	Group 5-B
Spent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acids
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes
Hypochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste." California Department of Health, February 1975.

Appendix VI - Compounds With Henry's Law Constant Less Than 0.1 Y/X

COMPOUND NAME (9/98, 11/99)	CAS NO.
Acetaldol	107-89-1
Acetamide	60-35-5
2-Acetylaminofluorene	53-96-3
3-Acetyl-5-hydroxypiperidine	
3-Acetylpiperidine	618-42-8
1-Acetyl-2-thiourea	591-08-2
Acrylamide	79-06-1
Acrylic acid	79-10-7
Adenine	73-24-5
Adipic acid	124-04-9
Adiponitrile	111-69-3
Alachlor	15972-60-8
Aldicarb	116-06-3
Ametryn	834-12-8
4-Aminobiphenyl	92-67-1
4-Aminopyridine	504-24-5
Aniline	62-53-3
o-Anisidine	90-04-0
Anthraquinone	84-65-1
Atrazine	1912-24-9
Benzenearsonic acid	98-05-5
Benzenesulfonic acid	98-11-3
Benzidine	92-87-5
Benzo(a)anthracene	56-55-3
Benzo(k)fluoranthene	207-08-9
Benzoic acid	65-85-0
Benzo(g,h,i)perylene	191-24-2
Benzo(a)pyrene	50-32-8
Benzyl alcohol	100-51-6
gamma-BHC	58-89-9
Bis(2-ethylhexyl)phthalate	117-81-7
Bromochloromethyl acetate	
Bromoxynil	1689-84-5
Butyric acid	107-92-6
Caprolactam (hexahydro-2H-azepin-2-one)	105-60-2
Catechol (o-dihydroxybenzene)	120-80-9
Cellulose	9004-34-6
Cell wall	
Chlorhydrin (3-Chloro-1,2-propanediol)	96-24-2
Chloroacetic acid	79-11-8
2-Chloroacetophenone	93-76-5
p-Chloroaniline	106-47-8
p-Chlorobenzophenone	134-85-0
Chlorobenzilate	510-15-6
p-Chloro-m-cresol (6-chloro-m-cresol)	59-50-7
3-Chloro-2,5-diketopyrrolidine	
Chloro-1,2-ethane diol	
4-Chlorophenol	106-48-9
Chlorophenol polymers (2-chlorophenol & 4-chlorophenol)	95-57-8 & 106-48-9
1-(o-Chlorophenyl)thiourea	5344-82-1
Chrysene	218-01-9
Citric acid.	77-92-9
Creosote	8001-58-9
m-Cresol	108-39-4
o-Cresol	95-48-7
p-Cresol	106-44-5
Cresol (mixed isomers)	1319-77-3
4-Cumylphenol	27576-86
Cyanide	57-12-5
4-Cyanomethyl benzoate	
Diazinon	333-41-5
Dibenzo(a,h)anthracene	53-70-3
Dibutylphthalate	84-74-2
2,5-Dichloroaniline (N,N'-dichloroaniline)	95-82-9
2,6-Dichlorobenzonitrile11	1194-65-6
2,6-Dichloro-4-nitroaniline	99-30-9
2,5-Dichlorophenol	333-41-5
3,4-Dichlorotetrahydrofuran	3511-19
Dichlorvos (DDVP)	62-73-7
Diethanolamine	111-42-2
N,N-Diethylaniline	91-66-7
Diethylene glycol	111-46-6
Diethylene glycol dimethyl ether (dimethyl Carbitol)	111-96-6
Diethylene glycol monobutyl ether (butyl Carbitol)	112-34-5
Diethylene glycol monoethyl ether acetate (Carbitol acetate)	112-15-2
Diethylene glycol monoethyl ether (Carbitol Cellosolve)	111-90-0
Diethylene glycol monomethyl ether (methyl Carbitol)	111-77-3

COMPOUND NAME (9/98, 11/99)	CAS NO.
N,N'-Diethylhydrazine	1615-80-1
Diethyl (4-methylumbelliferyl) thionophosphate	299-45-6
Diethyl phosphorothioate	126-75-0
N,N'-Diethylpropionamide	15299-99-7
Dimethoate	60-51-5
2,3-Dimethoxystrychnidin-10-one	357-57-3
4-Dimethylaminoazobenzene	60-11-7
7,12-Dimethylbenz(a)anthracene	57-97-6
3,3-Dimethylbenzidine	119-93-7
Dimethylcarbamoyl chloride	79-44-7
Dimethyldisulfide	624-92-0
Dimethylformamide	68-12-2
1,1-Dimethylhydrazine	57-14-7
Dimethylphthalate	131-11-3
Dimethylsulfone	67-71-0
Dimethylsulfoxide	67-68-5
4,6-Dinitro-o-cresol	534-52-1
1,2-Diphenylhydrazine	122-66-7
Dipropylene glycol (1,1'-oxydi-2-propanol)	110-98-5
Endrin	72-20-8
Epinephrine	51-43-4
mono-Ethanolamine	141-43-5
Ethyl carbamate (urethane)	5-17-96
Ethylene glycol	107-21-1
Ethylene glycol monobutyl ether (butyl Cellosolve)	111-76-2
Ethylene glycol monoethyl ether (Cellosolve)	110-80-5
Ethylene glycol monoethyl ether acetate (Cellosolve acetate)	111-15-9
Ethylene glycol monomethyl ether (methyl Cellosolve)	109-86-4
Ethylene glycol monophenyl ether (phenyl Cellosolve)	122-99-6
Ethylene glycol monopropyl ether (propyl Cellosolve)	2807-30-9
Ethylene thiourea (2-imidazolidinethione)	96-45-7
4-Ethylmorpholine	100-74-3
3-Ethylphenol	620-17-7
Fluoroacetic acid, sodium salt	62-74-8
Formaldehyde	50-00-0
Formamide	75-12-7
Formic acid	64-18-6
Fumaric acid.	110-17-8
Glutaric acid	110-94-1
Glycerin (Glycerol)	56-81-5
Glycidol	556-52-5
Glycinamide	598-41-4
Glyphosate	1071-83-6
Guthion	86-50-0
Hexamethylene-1,6-diisocyanate (1,6-diisocyanatohexane)	822-06-0
Hexamethyl phosphoramide.	680-31-9
Hexanoic acid	142-62-1
Hydrazine	302-01-2
Hydrocyanic acid	74-90-8
Hydroquinone	123-31-9
Hydroxy-2-propionitrile (hydracrylonitrile)	109-78-4
Indeno (1,2,3-cd) pyrene	193-39-5
Lead acetate	301-04-2
Lead subacetate (lead acetate, monobasic)	1335-32-6
Leucine	61-90-5
Malathion	121-75-5
Maleic acid	110-16-7

COMPOUND NAME (9/98, 11/99)	CAS NO.
Maleic anhydride	108-31-6
Mesityl oxide	141-79-7
Methane sulfonic acid	75-75-2
Methomyl	16752-77-5
p-Methoxyphenol	150-76-5
Methyl acrylate	96-33-3
4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
4,4'-Methylenediphenyl diisocyanate (diphenyl methane diisocyanate)	101-68-8
4,4'-Methylenedianiline	101-77-9
Methylene diphenylamine (MDA)	
5-Methylfurfural	620-02-0
Methylhydrazine	60-34-4
Methyliminoacetic acid	
Methyl methane sulfonate	66-27-3
1-Methyl-2-methoxyaziridine	
Methylparathion	298-00-0
Methyl sulfuric acid (sulfuric acid, dimethyl ester)	77-78-1
4-Methylthiophenol	106-45-6
Monomethylformamide (N-methylformamide)	123-39-7
Nabam	142-59-6
alpha-Naphthol	90-15-3
beta-Naphthol	135-19-3
alpha-Naphthylamine	134-32-7
beta-Naphthylamine	91-59-8
Neopentyl glycol (dimethylpropane)	126-30-7
Niacinamide	98-92-0
o-Nitroaniline	88-74-4
Nitroglycerin	55-63-0
2-Nitrophenol	88-75-5
4-Nitrophenol	100-02-7
N-Nitrosodimethylamine	62-75-9
Nitrosoguanidine	674-81-7
N-Nitroso-n-methylurea	684-93-5
N-Nitrosomorpholine (4-nitrosomorpholine)	59-89-2
Oxalic acid	144-62-7
Parathion	56-38-2
Pentaerythritol	115-77-5
Phenacetin	62-44-2
Phenol	108-95-2
Phenylacetic acid	103-82-2
m-Phenylene diamine	108-45-2
o-Phenylene diamine	95-54-5
p-Phenylene diamine	106-50-3
Phenyl mercuric acetate	62-38-4
Phorate	298-02-2
Phthalic anhydride	85-44-9
alpha-Picoline (2-methyl pyridine)	109-06-8
1,3-Propane sultone	1120-71-4
beta-Propiolactone	57-57-8
Proporur (Baygon)	
Propylene glycol	57-55-6
Pyrene	129-00-0
Pyridinium bromide	39416-48-3
Quinoline	91-22-5
Quinone (p-benzoquinone)	106-51-4
Resorcinol	108-46-3
Simazine	122-34-9
Sodium acetate	127-09-3
Sodium formate	141-53-7
Strychnine	57-24-9
Succinic acid	110-15-6

COMPOUND NAME (9/98, 11/99)	**CAS NO.**
Succinimide	123-56-8
Sulfanilic acid	121-47-1
Terephthalic acid	100-21-0
Tetraethyldithiopyrophosphate	3689-24-5
Tetraethylenepentamine	112-57-2
Thiofanox	39196-18-4
Thiosemicarbazide	79-19-6
2,4-Toluenediamine	95-80-7
2,6-Toluenediamine	823-40-5
3,4-Toluenediamine	496-72-0

COMPOUND NAME (9/98, 11/99)	**CAS NO.**
2,4-Toluene diisocyanate	584-84-9
p-Toluic acid	99-94-5
m-Toluidine	108-44-1
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Triethanolamine	102-71-6
Triethylene glycol dimethyl ether	
Tripropylene glycol	24800-44-0
Warfarin	81-81-2
3,4-Xylenol (3,4-dimethylphenol)	95-65-8

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Subpart C - Recyclable Materials Used In a Manner Constituting Disposal

266.20 Applicability

(a) The regulations of this subpart apply to recyclable materials that are applied to or placed on the land:

(1) Without mixing with any other substance(s); or

(2) After mixing or combination with any other substance(s).

These materials will be referred to throughout this subpart as "materials used in a manner that constitutes disposal."

(b) Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if such products meet the applicable treatment standards in subpart D of part 268 (or applicable prohibition levels in 268.32 or RCRA section 3004(d), where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain and the recycler complies with 268.7(b)(6). (12/92, 03)

(c) Anti-skid/deicing uses of slags which are generated from high temperature metals recovery (HTMR) processing of hazardous waste K061, K062, and F006, in a manner constituting disposal are not covered by the exemption in paragraph (b) of this section and remain subject to regulation (9/98, 8/00).

(d) Fertilizers that contain recyclable materials are not subject to regulation provided that: (6/04)

(1) They are zinc fertilizers excluded from the definition of solid waste according to 261.4(a)(21);

(2) They meet the applicable treatment standards in subpart D of Part 268 for each hazardous waste that they contain.

266.21 Standards applicable to generators and transporters of materials used in a manner that constitute disposal

Generators and transporters of materials that are used in a manner that constitutes disposal are subject to the applicable requirements of R.61-79.262 and R.61-79.263 of this chapter, and the notification requirement under SCHWMA 44-56-120 or RCRA section 3010. (12/92)

266.22 Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users

Owners or operators of facilities that store recyclable materials that are to be used in a manner that constitutes disposal, but who are not the ultimate users of the materials, are regulated under all applicable provisions of subparts A through L of R.61-79.264, R.61-79.265, R.61-79.124, and R.61-79.270 of this chapter and the notification requirements of RCRA section 3010 and the South Carolina Hazardous Waste Management Act 44-56-120. (11/90, 12/92)

266.23 Standards applicable to users of materials

that are used in a manner that constitutes disposal

(a) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of subparts A through N of R.61-79.124, R.61-79.264, R.61-79.265, R.61-79.268 and R.61-79.270 and the notification requirements under RCRA section 3010 and the South Carolina Hazardous Waste Management Act, 44-56-120. (These requirements do not apply to products which contain these recyclable materials under the provisions of Section 266.20(b).) (11/90, 12/92; 5/96)

(b) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

Subpart D - [Removed 5/93]

Subpart E [Removed 6/06; Refer to R.61-79.107.279]

Subpart F - Recyclable Materials Utilized for Precious Metal Recovery

266.70 Applicability and requirements

(a) The regulations of this subpart apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, palladium, iridium, osmium, rhodium, ruthenium, or any combination of these.

(b) Persons who generate, transport, or store recyclable materials that are regulated under this subpart are subject to the following requirements:

(1) Notification requirements under sections 262.13, 263.13, 264.5 and 265.5 SCHWMA 44-56-120 and section 3010 of RCRA; (12/92)

(2) Subpart B of part 262 (for generators), 263.20 and 263.21 (for transporters), and 265.71 and 265.72 (for persons who store) of this chapter; and (9/98)

(3) For precious metals exported to or imported from designated OECD member countries for recovery, subpart H of part 262 and 265.12(a)(2) of this chapter. For precious metals exported to or imported from non-OECD countries for recovery, subparts E and F of 262.(9/98)

(c) Persons who store recycled materials that are regulated under this subpart must keep the following records to document that they are not accumulating these materials speculatively (as defined in 261.1(c) of this chapter);

(1) Records showing the volume of these materials stored at the beginning of the calendar year;

(2) The amount of these materials generated or received during the calendar year; and

(3) The amount of materials remaining at the end of the calendar year.

(d) Recyclable materials that are regulated under this subpart that are accumulated speculatively (as defined in 261.1(c) of this chapter) are subject to all applicable provisions of parts 262 through 265, 270 and R.61-79.124 of this chapter.

Subpart G - Spent Lead-Acid Batteries Being Reclaimed

266.80 Applicability and requirements

(a) Are spent lead-acid batteries exempt from hazardous waste management requirements? If you generate, collect, transport, store, or regenerate lead-acid batteries for reclamation purposes, you may be exempt from certain hazardous waste management requirements. Use the following table to determine which requirements apply to you. Alternatively, you may choose to manage your spent lead-acid batteries under the "Universal Waste" rule in part 273.

If your batteries:	And if you:	Then you:	And you:
(1) Will be reclaimed through regeneration (such as by electrolyte replacement).		are exempt from 262 (except for 262.11), 263, 264, 265, 266, 268, 270, 124, and the notification requirements of South Carolina HWMA 44-56-120 and at section 3010 of RCRA.	are subject to 261 and 262.11.
(2) Will be reclaimed other than through regeneration.	generate, collect, and/or transport these batteries.	are exempt from 262 (except for 262.11), 263, 264, 265, 266, 270, 124 of this chapter, and the notification requirements of South Carolina HWMA 44-56-120 and at section 3010 of RCRA.	are subject to 261 and 262.11, and applicable provisions under 268.
(3) Will be reclaimed other than through regeneration.	store these batteries but you aren't the reclaimer.	are exempt from 262 (except for 262.11), 263, 264, 265, 266, 270, 124, and the provisions under notification requirements of South Carolina HWMA 44-56-120 and at section 3010 of RCRA.	are subject to 261, 262.11, and applicable 268.
(4) Will be reclaimed other than through regeneration.	store these batteries before you reclaim them.	must comply with 266.80(b) and as appropriate other regulatory provisions described in 266.80(b).	are subject to 261, 262.11, and applicable provisions under 268.
(5) Will be reclaimed other than through regeneration.	don't store these batteries before you reclaim them.	are exempt from 262 (except for 262.11), 263, 264, 265, 266, 270, 124, and the notification requirements of South Carolina HWMA 44-56-120 and at section 3010 of RCRA.	are subject to 261, 262.11, and applicable provisions under 268.

(6) Will be reclaimed through regeneration or any other means	export these batteries for reclamation in a foreign country	are exempt from 40 CFR parts 263, 264, 265, 266, 268, 270, 124 of this chapter, and the notification requirements at section 3010 of RCRA. You are also exempt from part 262, except for 262.11, and except for the applicable requirements in either: (1) 40 CFR part 262 subpart H; or (2) 262.53 "Notification of Intent to Export, 262.56(a)(1) through (4)(6) and (b) "Annual Reports," and 262.57 "Recordkeeping"	are subject to 40 CFR part 261 and 262.11, and either must comply with 40 CFR part 262, subpart H (if shipping to one of the OECD countries specified in 40 CFR 262.58(a)(1)), or must: (a) Comply with the requirements applicable to a primary exporter in 40 CFR 262.53, 262.56(a) (1) through (4), (6), and (b) and 262.57; and (b) Export these batteries only upon consent of the receiving country and in conformance with the EPA Acknowledgement of Consent as defined in subpart E of part 262 of this chapter; and
			(c) Provide a copy of the EPA Acknowledgment of Consent for the shipment to the transporter transporting the shipment for export.
(7) Will be reclaimed through regeneration or any other means	Transport these batteries in the U.S. to export them for reclamation in a foreign country	are exempt from 40 CFR parts 263, 264, 265, 266, 268, 270, 124 of this chapter, and the notification requirements at section 3010 of RCRA	must comply with applicable requirements in 40 CFR part 262, subpart H (if shipping to one of the OECD countries specified in 40 CFR 262.58(a)(1)), or must comply with the following:
			(a) you may not accept a shipment if you know the shipment does not conform to the EPA Acknowledgment of Consent;
			(b) you must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment; and
			(c) you must ensure that the shipment is delivered to the facility designated by the person initiating the shipment.

(b) If I store spent lead-acid batteries before I reclaim them but not through regeneration, which requirements apply? The requirements of paragraph (b) of this section apply to you if you store spent lead-acid batteries before you reclaim them, but you don't reclaim them through regeneration. The requirements are slightly different depending on your RCRA permit status.

(1) For Interim Status Facilities, you must comply with:

(i) Notification requirements of South Carolina HWMA 44-56-120 and under section 3010 of RCRA.

(ii) All applicable provisions in subpart A of part 265 of this chapter.

(iii) All applicable provisions in subpart B of part 265 of this chapter except 265.13 (waste analysis).

(iv) All applicable provisions in subparts C and D of part 265 of this chapter.

(v) All applicable provisions in subpart E of part 265 of this chapter except 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies).

(vi) All applicable provisions in subparts F through L of part 265 of this chapter.

(vii) All applicable provisions in parts 270 and 124 of this chapter.

(2) For Permitted Facilities.

(i) Notification requirements of South Carolina HWMA 44-56-120 and under section 3010 of RCRA.

(ii) All applicable provisions in subpart A of part 264 of this chapter.

(iii) All applicable provisions in subpart B of part 264 of this chapter (but not 264.13 (waste analysis).

(iv) All applicable provisions in subparts C and D of part 264 of this chapter.

(v) All applicable provisions in subpart E of part 264 of this chapter (but not 264.71 or 264.72 (dealing with the use of the manifest and manifest discrepancies).

(vi) All applicable provisions in subparts F through L of part 264 of this chapter.

(vii) All applicable provisions in parts 270 and 124 of this chapter.

Subpart H - Hazardous Waste Burned In Boilers And Industrial Furnaces

266.100 Applicability

(a) The regulations of this Subpart apply to hazardous waste burned or processed in a boiler or industrial furnace (as defined in 260.10) irrespective of the purpose of burning or processing, except as provided by paragraphs (b), (c), (d), (g) and (h) of this section. In this subpart the term “burn” means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emissions standards of 266.104, 266.105, 266.106, and 266.107 apply to facilities operating under interim status or under a permit as specified in R.61-79.266.102 and 266.103. (5/93, 12/93; 5/96, 9/01, 6/03, 6/06)

(b) Integration of the MACT standards.

(1) Except as provided by paragraphs (b)(2), (b)(3), and (b)(4) of this section, the standards of this part do not apply to a new hazardous waste boiler or industrial furnace unit that becomes subject to RCRA permit requirements after October 12, 2005; or no longer apply when an owner or operator of an existing hazardous waste boiler or industrial furnace unit demonstrates compliance with the maximum achievable control technology (MACT) requirements of 40 CFR part 63, subpart EEE, by conducting a comprehensive performance test and submitting to the Department a Notification of Compliance under 40 CFR part 63.1207(j) and 63.1210(d) documenting compliance with the requirements of 40 CFR part 63, subpart EEE.

(2) The following standards continue to apply:

(i) If you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, 266.102(e)(1) requiring operations in accordance with the operating requirements specified in the permit at all times that hazardous waste is in the unit, and 266.102(e)(2)(iii) requiring compliance with the emission standards and operating requirements during startup and shutdown if hazardous waste is in the combustion chamber, except for particular hazardous wastes. These provisions apply only during startup, shutdown, and malfunction events;

(ii) The closure requirements of 266.102(e)(11) and 266.103(l);

(iii) The standards for direct transfer of 266.111;

(iv) The standards for regulation of residues of 266.112; and

(v) The applicable requirements of Subparts A through H, BB and CC of parts 264 and 265.

(3) If you own or operate a boiler or hydrochloric acid production furnace that is an area source under Sec. 40 CFR part 63.2 and you elect not to comply with the emission standards under 40 CFR part 63.1216, 63.1217, and 63.1218 for particulate matter, semivolatile and low volatile metals, and total chlorine, you also remain subject to:

(i) 266.105-Standards to control particulate matter;

(ii) 266.106-Standards to control metals emissions, except for mercury; and

(iii) 266.107-Standards to control hydrogen chloride and chlorine gas.

(4) The particulate matter standard of 266.105 remains in effect for boilers that elect to comply with the alternative to the particulate matter standard under 40 CFR part 63.1216(e) and 63.1217(e). (6/08)

(c) The following hazardous wastes and facilities are not subject to regulation under this Subpart: (9/01)

(1) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of 261. Such used oil is subject to regulation under R.61-107.279;

(2) Gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery;

(3) Hazardous wastes that are exempt from regulation under 261.4 and 261.6(a)(3)(iii) and (vi), and hazardous wastes that are subject to the special requirements for conditionally exempt small quantity generators under 261.5 ; (5/96, 8/00) and

(4) Coke ovens, if the only hazardous waste burned is EPA Hazardous Waste No. K087, decanter tank tar sludge from coking operations.

(d) Owners and operators of smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces, but not including cement kilns, aggregate kilns, or halogen acid furnaces burning hazardous waste) that process hazardous waste solely for metal recovery are conditionally exempt from regulation under this Subpart, except for 266.101 and 266.112. (9/01, 6/03)

(1) To be exempt from 266.102 through 266.111, an owner or operator of a metal recovery furnace or mercury recovery furnace must comply with the following requirements, except that an owner or operator of a lead or a nickel-chromium recovery furnace, or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, must comply with the requirements of (d)(3), and owners or operators of lead recovery furnaces that are subject to regulation under the Secondary Lead Smelting NESHAP must comply with the requirements of (h).

(i) Provide a one-time written notice to the Department indicating the following:

(A) The owner or operator claims exemption under this paragraph;

(B) The hazardous waste is burned solely for metal recovery consistent with the provisions of paragraph (c)(2) of this section;

(C) The hazardous waste contains recoverable levels of metals; and

(D) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this paragraph;

(ii) Sample and analyze the hazardous waste and other feedstocks as necessary to comply with the requirements of this paragraph under procedures specified by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in 260.11 of this chapter or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method; and (12/93)

(iii) Maintain at the facility for at least three years records to document compliance with the provisions of this paragraph including limits on levels of toxic organic constituents and Btu value of the waste, and levels of recoverable metals in the hazardous waste compared to normal nonhazardous waste feedstocks.

(2) A hazardous waste meeting either of the following criteria is not processed solely for metal recovery: (6/03)

(i) The hazardous waste has a total concentration of organic compounds listed in part 261, Appendix VIII, of this chapter exceeding 500 ppm by weight, as-fired, and so is considered to be burned for destruction. The concentration of organic compounds in a waste as-generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by (d)(1)(iii); or (12/93)**

(ii) The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending for dilution to meet the 5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the records required by (d)(1)(iii).

(3) To be exempt from 266.102 through 266.111, an owner or operator of a lead or nickel-chromium or mercury recovery furnace (except for owners or operators of lead recovery furnaces subject to regulation under the Secondary Lead Smelting NESHAP) or a metal recovery furnace that burns baghouse bags used to capture metallic dusts emitted by steel manufacturing, must provide a one-time written notice to the Department identifying each hazardous waste burned and specifying whether the owner or operator claims an exemption for each waste under this paragraph or paragraph (d)(1). The owners or operator must comply with the requirements of paragraph (d)(1) of this section for those wastes claimed to be exempt under that paragraph and must comply with the requirements below for those wastes claimed to be exempt under this paragraph (d)(3)(i).(12/93, 5/96, 6/03)

(i) The hazardous wastes listed in Appendices XI, XII, and XIII, part 266, and baghouse bags used to capture metallic dusts emitted by steel manufacturing are exempt from the requirements of paragraph (d)(1) of this section, provided that: (12/93; 5/96, 6/03)

(A) A waste listed in Appendix XI must contain recoverable levels of lead, a waste listed in Appendix XII of this part must contain recoverable levels of nickel or chromium, a waste listed in Appendix XIII of this part must contain recoverable levels of mercury and contain less than 500 ppm of R.61-70.261, Appendix VIII organic constituents, and baghouse bags used to capture metallic dusts emitted by steel manufacturing must contain recoverable levels of metal; and (5/96)

(B) The waste does not exhibit the Toxicity Characteristic of 261.24 of this chapter for an organic constituent; and

(C) The waste is not a hazardous waste listed in subpart D of part 261 of this chapter because it is listed for an organic constituent as identified in Appendix VII of part 261 of this chapter; and

(D) The owner or operator certifies in the one-time notice that hazardous waste is burned under the provisions of paragraph (d)(3) of this section and that sampling and analysis will be conducted or other information will be obtained as necessary to ensure continued compliance with these requirements. Sampling and analysis shall be conducted according to paragraph (d)(1)(ii) of this section and records to document compliance with paragraph (d)(3) of this section shall be kept for at least three years. (6/03)

(ii) The Department may decide on a case-by-case basis that the toxic organic constituents in a material listed in Appendix XI, XII, or XIII of this part that contains a total concentration of more than 500 ppm toxic organic compounds listed in Appendix VIII, part 261 of this chapter, may pose a hazard to human health and the environment when burned in a metal recovery furnace exempt from the requirements of this subpart. In that situation, after adequate notice and opportunity for comment, the metal recovery furnace will become subject to the requirements of this subpart when burning that material. In making the hazard determination, the Department will consider the following factors: (12/93; 5/96)

(A) The concentration and toxicity of organic constituents in the material; and

(B) The level of destruction of toxic organic constituents provided by the furnace; and

(C) Whether the acceptable ambient levels established in appendices IV or V of this part may be exceeded for any toxic organic compound that may be emitted based on dispersion modeling to predict the maximum annual average off-site ground level concentration.

(e) The standards for direct transfer operations under 266.111 apply only to facilities subject to the permit standards of 266.102 or the interim status standards of 266.103. (9/01, 6/10)

(f) The management standards for residues under 266.112 apply to any boiler or industrial furnace burning hazardous waste. (9/01, 6/10)

(g) Owners and operators of smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, sintering machines, roasters, and foundry furnaces) that process hazardous waste for recovery of economically significant amounts of the precious metals gold, silver, platinum, palladium, iridium, osmium, rhodium, or ruthenium, or any combination of these are conditionally exempt from regulation under this subpart, except for 266.112. To be exempt from 266.101 through 266.111 an owner or operator must: (12/93, 9/01, 6/10)

(1) Provide a one-time written notice to the Department indicating the following:

(i) The owner or operator claims exemption under this paragraph;

(ii) The hazardous waste is burned for legitimate recovery of precious metal; and

(iii) The owner or operator will comply with the sampling and analysis and recordkeeping requirements of this paragraph; and

(2) Sample and analyze the hazardous waste as necessary to document that the waste is burned for recovery of economically significant amounts of precious metal using procedures specified by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, incorporated by reference in 260.11 of this chapter or alternative methods that meet or exceed the SW-846 method performance capabilities. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method; and

(3) Maintain at the facility for at least three years records to document that all hazardous wastes burned are burned for recovery of economically significant amounts of precious metal.

(h) Starting June 23, 1997, owners or operators of lead recovery furnaces that process hazardous waste for recovery of lead and that are subject to regulation under the Secondary Lead Smelting NESHAP, are conditionally exempt from regulation under this subpart, except for 266.101. To be exempt, an owner or operator must provide a one-time notice to the Department identifying each hazardous waste burned and specifying that the owner or operator claims an exemption under this paragraph. The notice also must state that the waste burned has a total concentration of non-metal compounds listed in part 261 Appendix VIII of less than 500 ppm by weight, as fired and as provided in paragraph (d)(2)(i), or is listed in Appendix XI.

266.101 Management prior to burning

(a) Generators. Generators of hazardous waste that is burned in a boiler or industrial furnace are subject to part 262 of this chapter.

(b) Transporters. Transporters of hazardous waste that is burned in a boiler or industrial furnace are subject to part 263 of this chapter.

(c) Storage and Treatment Facilities. (9/01)

(1) Owners and operators of facilities that store or treat hazardous waste that is burned in a boiler or industrial furnace are subject to the applicable provisions of parts 264, 265, and 270 of this chapter, except as provided by paragraph (c)(2) of this section. These standards apply to storage and treatment by the burner as well as to storage and treatment facilities operated by intermediaries (processors, blenders, distributors, etc.) between the generator and the burner.(12/93, 9/01, 6/03)

(2) Owners and operators of facilities that burn, in an onsite boiler or industrial furnace exempt from regulation under the small quantity burner provisions of 266.108, hazardous waste that they generate are exempt from the regulations of parts 264, 265, and 270 of this chapter applicable to storage units for those storage units that store mixtures of hazardous waste and the primary fuel to the boiler or industrial furnace in tanks that feed the fuel mixture directly to the burner. Storage of hazardous waste prior to mixing with the primary fuel is subject to regulation as prescribed in paragraph (c)(1) of this section. (12/93)

266.102 Permit standards for burners

(a) Applicability.

(1) General. Owners and operators of boilers and industrial furnaces burning hazardous waste and not operating under interim status must comply with the requirements of this section and 270.22 and 270.66 of this chapter, unless exempt under the small quantity burner exemption of 266.108.

(2) Applicability of part 264 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste are subject to the following provisions of part 264 of this chapter, except as provided otherwise by this subpart:

(i) In subpart A (General), 264.4;

(ii) In subpart B (General facility standards), 264.11 - 264.18;

(iii) In subpart C (Preparedness and prevention), 264.31 - 264.37;

(iv) In subpart D (Contingency plan and emergency procedures), 264.51 - 264.56;

(v) In subpart E (Manifest system, recordkeeping, and reporting), the applicable provisions of 264.71 - 264.77;

(vi) In subpart F (Releases from Solid Waste Management Units), 264.90 and 264.101;

(vii) In subpart G (Closure and postclosure), 264.111 - 264.115;

(viii) In subpart H (Financial requirements), 264.141, 264.142, 264.143, and 264.147 - 264.151, except that States and the Federal government are exempt from the requirements of subpart H; and

(ix) Subpart BB (Air emission standards for equipment leaks), except 264.1050(a).

(b) Hazardous waste analysis.

(1) The owner or operator must provide an analysis of the hazardous waste that quantifies the concentration of any constituent identified in Appendix VIII of part 261 of this chapter that may reasonably be expected to be in the waste. Such constituents must be identified and quantified if present, at levels detectable by analytical procedures prescribed by Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (incorporated by reference, see 260.11 of this chapter). Alternative methods that meet or exceed the method performance capabilities of SW-846 methods may be used. If SW-846 does not prescribe a method for a particular determination, the owner or operator shall use the best available method. The Appendix VIII, part 261 constituents excluded from this analysis must be identified and the basis for their exclusion explained. This analysis will be used to provide all information required by this subpart and 270.22 and 270.66 of this chapter and to enable the permit writer to prescribe such permit conditions as necessary to protect human health and the environment. Such analysis must be included as a portion of the part B permit application, or, for facilities operating under the interim status standards of this subpart, as a portion of the trial burn plan that may be submitted before the part B application under provisions of 270.66(g) of this chapter as well as any other analysis required by the permit authority in preparing the permit. Owners and operators of boilers and industrial furnaces not operating under the interim status standards must provide the information required by 270.22 or 270.66(c) of this chapter in the part B application to the greatest extent possible. (12/93)

(2) Throughout normal operation, the owner or operator must conduct sampling and analysis as necessary to ensure that the hazardous waste, other fuels, and industrial furnace feedstocks fired into the boiler or industrial furnace are within the physical and chemical composition limits specified in the permit.

*(c)*Emissions standards. Owners and operators must comply with emissions standards provided by 266.104 through 266.107.

(d) Permits.

(1) The owner or operator may burn only hazardous wastes specified in the facility permit and only under the operating conditions specified under paragraph (e) of this section, except in approved trial burns under the conditions specified in 270.66 of this chapter.

(2) Hazardous wastes not specified in the permit may not be burned until operating conditions have been specified under a new permit or permit modification, as applicable. Operating requirements for new wastes may be based on either trial burn results or alternative data included with part B of a permit application under 270.22 of this chapter.

(3) Boilers and industrial furnaces operating under the interim status standards of 266.103 are permitted under procedures provided by 270.66(g) of this chapter.

(4) A permit for a new boiler or industrial furnace (those boilers and industrial furnaces not operating under the interim status standards) must establish appropriate conditions for each of the applicable requirements of this section, including but not limited to allowable hazardous waste firing rates and operating conditions necessary to meet the requirements of paragraph (e) of this section, in order to comply with the following standards:

(i) For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the device to a point of operational readiness to conduct a trial burn, not to exceed a duration of 720 hours operating time when burning hazardous waste, the operating requirements must be those most likely to ensure compliance with the emission standards of 266.104 through 266.107, based on the Department's engineering judgment. If the applicant is seeking a waiver from a trial burn to demonstrate conformance with a particular emission standard, the operating requirements during this initial period of operation shall include those specified by the applicable provisions of 266.104, 266.105, 266.106, or 266.107. The Department may extend the duration of this period for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(ii) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the emissions standards of 266.104 through 266.107 and must be in accordance with the approved trial burn plan;

(iii) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, submission of the trial burn results by the applicant, review of the trial burn results and modification of the facility permit by the Department to reflect the trial burn results, the operating requirements must be those most likely to ensure compliance with the emission standards 266.104 through 266.107 based on the Department's engineering judgment.

(iv) For the remaining duration of the permit, the operating requirements must be those demonstrated in a trial burn or by alternative data specified in 270.22 of this chapter, as sufficient to ensure compliance with the emissions standards of 266.104 through 266.107.

(e) Operating requirements.

(1) General. A boiler or industrial furnace burning hazardous waste must be operated in accordance with the operating requirements specified in the permit at all times where there is hazardous waste in the unit.

(2) Requirements to ensure compliance with the organic emissions standards-

(i) DRE standard. Operating conditions will be specified either on a case-by-case basis for each hazardous waste burned as those demonstrated (in a trial burn or by alternative data as specified in 270.22) to be sufficient to comply with the destruction and removal efficiency (DRE) performance standard of 266.104(a) or as those special operating requirements provided by 266.104(a)(4) for the waiver of the DRE trial burn. When the DRE trial burn is not waived under 266.104(a)(4), each set of operating requirements will specify the composition of the hazardous waste (including acceptable variations in the physical and chemical properties of the hazardous waste which will not affect compliance with the DRE performance standard) to which the operating requirements apply. For each such hazardous waste, the permit will specify acceptable operating limits including, but not limited to, the following conditions as appropriate:

(A) Feed rate of hazardous waste and other fuels measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Minimum and maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Appropriate controls of the hazardous waste firing system;

(D) Allowable variation in boiler and industrial furnace system design or operating procedures;

(E) Minimum combustion gas temperature measured at a location indicative of combustion chamber temperature, measured and specified as prescribed in paragraph (e)(6) of this section;

(F) An appropriate indicator of combustion gas velocity, measured and specified as prescribed in paragraph (e)(6) of this section, unless documentation is provided under 270.66 of this chapter demonstrating adequate combustion gas residence time; and

(G) Such other operating requirements as are necessary to ensure that the DRE performance standard of 266.104(a) is met.

(ii) Carbon monoxide and hydrocarbon standards. The permit must incorporate a carbon monoxide (CO) limit and, as appropriate, a hydrocarbon (HC) limit as provided by paragraphs (b), (c), (d), (e) and (f) of 266.104. The permit limits will be specified as follows:

(A) When complying with the CO standard of 266.104(b)(1), the permit limit is 100 ppmv;

(B) When complying with the alternative CO standard under 266.104(c), the permit limit for CO is based on the trial burn and is established as the average over all valid runs of the highest hourly rolling average CO level of each run, and the permit limit for HC is 20 ppmv (as defined in 266.104(c)(1)), except as provided in 266.104(f).

(C) When complying with the alternative HC limit for industrial furnaces under 266.104(f), the permit limit for HC and CO is the baseline level when hazardous waste is not burned as specified by that paragraph.

(iii) Startup and shutdown. During startup and shutdown of the boiler or industrial furnace, hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine, and except low risk waste exempt from the trial burn requirements under 266.104(a)(5), 266.105, 266.106, and 266.107) must not be fed into the device unless the device is operating within the conditions of operation specified in the permit.

(3) Requirements to ensure conformance with the particulate standard.

(i) Except as provided in paragraphs (e)(3) (ii) and (iii) of this section, the permit shall specify the following operating requirements to ensure conformance with the particulate standard specified in 266.105:

(A) Total ash feed rate to the device from hazardous waste, other fuels, and industrial furnace feedstocks, measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Maximum device production rate when producing normal product expressed in appropriate units, and measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(D) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(E) Such other operating requirements as are necessary to ensure that the particulate standard in 266.105(a) is met.

(ii) Permit conditions to ensure conformance with the particulate matter standard shall not be provided for facilities exempt from the particulate matter standard under 266.105(b);

(iii) For cement kilns and light weight aggregate kilns, permit conditions to ensure compliance with the particulate standard shall not limit the ash content of hazardous waste or other feed materials.

(4) Requirements to ensure conformance with the metals emissions standard.

(i) For conformance with the Tier I (or adjusted Tier I) metals feed rate screening limits of paragraphs (b) or (e) of 266.106, the permit shall specify the following operating requirements:

(A) Total feed rate of each metal in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified under provisions of paragraph (e)(6) of this section;

(B) Total feed rate of hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) A sampling and metals analysis program for the hazardous waste, other fuels, and industrial furnace feedstocks;

(ii) For conformance with the Tier II metals emission rate screening limits under 266.106(c) and the Tier III metals controls under 266.106(d), the permit shall specify the following operating requirements:

(A) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (e)(6)(i) of this section;

(C) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraphs (e)(6) of this section:

(1) Total feed streams;

(2) Total hazardous waste feed; and

(3) Total pumpable hazardous waste feed;

(D) Total feed rate of chlorine and chloride in total feed streams measured and

specified as prescribed in paragraph (e)(6) of this section;

(E) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (e)(6) of this section;

(F) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (e)(6) of this section;

(G) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (e)(6) of this section;

(H) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(I) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(J) Such other operating requirements as are necessary to ensure that the metals standards under 266.106(c) or 266.106(d) are met.

(iii) For conformance with an alternative implementation approach approved by the Department under 266.106(f), the permit will specify the following operating requirements:

(A) Maximum emission rate for each metal specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste and pumpable hazardous waste, each measured and specified as prescribed in paragraph (e)(6)(i) of this section;

(C) Feed rate of each metal in the following feedstreams, measured and specified as prescribed in paragraph (e)(6) of this section:

(1) Total hazardous waste feed; and

(2) Total pumpable hazardous waste feed;

(D) Total feed rate of chlorine and chloride in total feed streams measured and specified prescribed in paragraph (e)(6) of this section;

(E) Maximum combustion gas temperature measured at a location indicative of combustion chamber temperature, and measured and specified as prescribed in paragraph (e)(6) of this section;

(F) Maximum flue gas temperature at the inlet to the particulate matter air pollution control system measured and specified as prescribed in paragraph (e)(6) of this section;

(G) Maximum device production rate when producing normal product expressed in appropriate units and measured and specified as prescribed in paragraph (e)(6) of this section;

(H) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(I) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(J) Such other operating requirements as are necessary to ensure that the metals standards under 266.106(c) or 266.106(d) are met.

(5) Requirements to ensure conformance with the hydrogen chloride and chlorine gas standards.

(i) For conformance with the Tier I total chloride and chlorine feed rate screening limits of 266.107(b)(1), the permit will specify the following operating requirements:

(A) Feed rate of total chloride and chlorine in hazardous waste, other fuels, and industrial furnace feedstocks measured and specified as prescribed in paragraph (e)(6) of this section;

(B) Feed rate of total hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) A sampling and analysis program for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feedstocks;

(ii) For conformance with the Tier II HCl and Cl_2 emission rate screening limits under 266.107(b)(2) and the Tier III HCl and Cl_2 controls under 266.107(c), the permit will specify the following operating requirements:

(A) Maximum emission rate for HCl and for Cl_2 specified as the average emission rate during the trial burn;

(B) Feed rate of total hazardous waste measured and specified as prescribed in paragraph (e)(6) of this section;

(C) Total feed rate of chlorine and chloride in total feed streams, measured and specified as prescribed in paragraph (e)(6) of this section;

(D) Maximum device production rate when producing normal product expressed in appropriate units, measured and specified as prescribed in paragraph (e)(6) of this section;

(E) Appropriate controls on operation and maintenance of the hazardous waste firing system and any air pollution control system;

(F) Allowable variation in boiler and industrial furnace system design including any air pollution control system or operating procedures; and

(G) Such other operating requirements as are necessary to ensure that the HCl and Cl_2 standards under 266.107 (b)(2) or (c) are met.

(6) Measuring parameters and establishing limits based on trial burn data -

(i) General requirements. As specified in paragraphs (e)(2) through (e)(5) of this section, each operating parameter shall be measured, and permit limits on the parameter shall be established, according to either of the following procedures:

(A) Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the permit limit specified as the time-weighted average during all valid runs of the trial burn; or

(B) Hourly rolling average.

(1) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(2) The permit limit for the parameter shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average value for each run. (12/93)

(ii) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (e)(6)(i) of this section or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an average period from 2 to 24 hours:

(A) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(B) The continuous monitor shall meet the following specifications:

(1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of the preceding clock hour; and

(C) The permit limit for the feed rate of each metal shall be established based on trial burn data as the average over all valid test runs of the highest hourly rolling average feed rate for each run.

(iii) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (e)(6) (i) and (ii) of this section.

(iv) Conduct of trial burn testing.

(A) If compliance with all applicable emissions standards of 266.104 through 266.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

(B) Prior to obtaining test data for purposes of demonstrating compliance with the emissions standards of 266.104 through 266.107 or establishing limits on operating parameters under this section, the facility must operate under trial burn conditions for a sufficient period to reach steady-state operations. The Department may determine, however, that industrial furnaces that recycle collected particulate matter back into the furnace and that comply with an alternative implementation approach for metals under 266.106(f) need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals emissions.

(C) Trial burn data on the level of an operating parameter for which a limit must be established in the permit must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl_2, organic compounds) for which the parameter must be established as specified by paragraph (e) of this section.

(7) General requirements-

(i) Fugitive emissions. Fugitive emissions must be controlled by:

(A) Keeping the combustion zone totally sealed against fugitive emissions; or

(B) Maintaining the combustion zone pressure lower than atmospheric pressure; or

(C) An alternate means of control demonstrated (with part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure.

(ii) Automatic waste feed cutoff. A boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from those established under this section. The Department may limit the number of cutoffs per an operating period on a case-by-case basis. In addition:

(A) The permit limit for (the indicator of) minimum combustion chamber temperature must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber,

(B) Exhaust gases must be ducted to the air pollution control system operated in accordance with the permit requirements while hazardous waste or hazardous waste residues remain in the combustion chamber; and

(C) Operating parameters for which permit limits are established must continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the permit limits. For parameters that may be monitored on an instantaneous basis, the Department will establish a minimum period of time after a waste feed cutoff during which the parameter must not exceed the permit limit before the hazardous waste feed may be restarted.

(iii) Changes. A boiler or industrial furnace must cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits as specified in the permit.

(8) Monitoring and Inspections.

(i) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste:

(A) If specified by the permit, feed rates and composition of hazardous waste, other fuels, and industrial furnace feedstocks, and feed rates of ash, metals, and total chloride and chlorine;

(B) If specified by the permit, carbon monoxide (CO), hydrocarbons (HC), and oxygen on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements specified in paragraph (e)(2)(ii) of this section. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this part.

(C) Upon the request of the Department, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feedstocks as appropriate), residues, and exhaust emissions must be conducted to verify that the operating requirements established in the permit achieve the applicable standards of 266.104, 266.105, 266.106, and 266.107.

(ii) All monitors shall record data in units corresponding to the permit limit unless otherwise specified in the permit.

(iii) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(iv) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the applicant demonstrates to the Department that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least once every 30 days.

(v) These monitoring and inspection data must be recorded and the records must be placed in the operating record required by 264.73 of this chapter.

(9) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator must comply with 266.111.

(10) *Recordkeeping.* The owner or operator must maintain in the operating record of the facility all information and data required by this section for five years. (6/08)

(11) Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or industrial furnace.

266.103 Interim status standards for burners

(a) Purpose, scope, applicability.

(1) General.

(i) The purpose of this section is to establish minimum national standards for owners and operators of "existing" boilers and industrial furnaces that burn hazardous waste where such standards define the acceptable management of hazardous waste

during the period of interim status. The standards of this section apply to owners and operators of existing facilities until either a permit is issued under 266.102(d) or until closure responsibilities identified in this section are fulfilled.

(ii) Existing or in existence means a boiler or industrial furnace that on or before August 21, 1991 is either in operation burning or processing hazardous waste or for which construction (including the ancillary facilities to burn or to process the hazardous waste) has commenced. A facility has commenced construction if the owner or operator has obtained the Federal, State, and local approvals or permits necessary to begin physical construction; and either:

(A) A continuous onsite, physical construction program has begun; or

(B) The owner or operator has entered into contractual obligations - which cannot be canceled or modified without substantial loss - for physical construction of the facility to be completed within a reasonable time.

(iii) If a boiler or industrial furnace is located at a facility that already has a permit or interim status, then the facility must comply with the applicable regulations dealing with permit modifications in 270.42 or changes in interim status in 270.72 of this chapter.

(2) Exemptions. The requirements of this section do not apply to hazardous waste and facilities exempt under 266.100(b), or 266.108.

(3) Prohibition on burning dioxin-listed wastes. The following hazardous waste listed for dioxin and hazardous waste derived from any of these wastes may not be burned in a boiler or industrial furnace operating under interim status: F020, F021, F022, F023, F026, and F027. (12/93)

(4) Applicability of part 265 standards. Owners and operators of boilers and industrial furnaces that burn hazardous waste and are operating under interim status are subject to the following provisions of part 265 of this chapter, except as provided otherwise by this section:

(i) In subpart A (General), 265.4;

(ii) In subpart B (General facility standards), 265.11 - 265.17;

(iii) In subpart C (Preparedness and prevention), 265.31 through 265.37;

(iv) In subpart D (Contingency plan and emergency procedures), 265.51 - 265.56;

(v) In subpart E (Manifest system, recordkeeping, and reporting), 265.71 - 265.77, except that 265.71, 265.72, and 265.76 do not apply to owners and operators of onsite facilities that do not receive any hazardous waste from offsite sources;

(vi) In subpart G (Closure and postclosure), 265.111 - 265.115;

(vii) In subpart H (Financial requirements), 265.141, 265.142, 265.143, and 265.147 - 265.150, except that States and the Federal government are exempt from the requirements of subpart H; and

(viii) Subpart BB (Air emission standards for equipment leaks), except 265.1050(a).

(5) Special requirements for furnaces. The following controls apply during interim status to industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see paragraph (a)(5)(ii) of this section) at any location other than the hot end where products are normally discharged or where fuels are normally fired: (12/93)

(i) Controls.

(A) The hazardous waste shall be fed at a location where combustion gas temperatures are at least 1800°F;

(B) The owner or operator must determine that adequate oxygen is present in combustion gases to combust organic constituents in the waste and retain documentation of such determination in the facility record;

(C) For cement kiln systems, the hazardous waste shall be fed into the kiln; and

(D) The hydrocarbon controls of 266.104(c) or paragraph (c)(5) of this section apply upon certification of compliance under paragraph (c) of this section irrespective of the CO level achieved during the compliance test. (12/93)

(ii) Burning hazardous waste solely as an ingredient. A hazardous waste is burned for a purpose other than solely as an ingredient if it meets either of these criteria:

(A) The hazardous waste has a total concentration of nonmetal compounds listed in part 261, Appendix VIII, of this chapter exceeding 500 ppm by weight, as-fired, and so, is considered to be burned for destruction. The concentration of nonmetal compounds in a waste as-generated may be reduced to the 500 ppm limit by bona fide treatment that removes or destroys nonmetal constituents. Blending for dilution to meet the 500 ppm limit is prohibited and documentation that the waste has not been impermissibly diluted must be retained in the facility record; or (12/93)

(B) The hazardous waste has a heating value of 5,000 Btu/lb or more, as-fired, and so, is considered to be burned as fuel. The heating value of a waste as-generated may be reduced to below the 5,000 Btu/lb limit by bona fide treatment that removes or destroys organic constituents. Blending to augment the heating value to meet the

5,000 Btu/lb limit is prohibited and documentation that the waste has not been impermissibly blended must be retained in the facility record. (12/93)

(6) Restrictions on burning hazardous waste that is not a fuel. Prior to certification of compliance under paragraph (c) of this section, owners and operators shall not feed hazardous waste (other than hazardous waste burned solely as an ingredient) in a boiler or industrial furnace that has a heating value less than 5,000 Btu/lb, as-generated, (except that the heating value of a waste as-generated may be increased to above the 5,000 Btu/lb limit by bona fide treatment; however, blending to augment the heating value to meet the 5,000 Btu/lb limit is prohibited and records must be kept to document that impermissible blending has not occurred) in a boiler or industrial furnace, except that: (12/93)

(i) Hazardous waste may be burned solely as an ingredient; or (12/93)

(ii) Hazardous waste may be burned for purposes of compliance testing (or testing prior to compliance testing) for a total period of time not to exceed 720 hours; or (12/93)

(iii) Such waste may be burned if the Department has documentation to show that, prior to August 21, 1991: (12/93)

(A) The boiler or industrial furnace is operating under the interim status standards for incinerators provided by subpart O of part 265 of this chapter, or the interim status standards for thermal treatment units provided by subpart P of part 265 of this chapter; and

(B) The boiler or industrial furnace met the interim status eligibility requirements under 270.70 of this chapter for subpart O or subpart P of part 265 of this chapter; and

(C) Hazardous waste with a heating value less than 5,000 Btu/lb was burned prior to that date; or

(iv) Such waste may be burned in a halogen acid furnace if the waste was burned as an excluded ingredient under 261.2(e) of this chapter prior to February 21, 1991 and documentation is kept on file supporting this claim. (12/93)

(7) Direct transfer to the burner. If hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit, the owner and operator must comply with 266.111.

(b) Certification of precompliance-

(1) General. The owner or operator must provide complete and accurate information specified in paragraph (b)(2) of this section to the Department on or before August 21, 1991, and must establish limits for the operating parameters specified in paragraph (b)(3) of this section. Such information is termed a "certification of precompliance" and constitutes a certification that the owner or operator has determined that, when the facility is operated within the limits specified in paragraph (b)(3) of this section, the owner or operator believes that, using best engineering judgment, emissions of particulate matter, metals, and HCl and Cl_2 are not likely to exceed the limits provided by 266.105, 266.106, and 266.107. The facility may burn hazardous waste only under the operating conditions that the owner or operator establishes under paragraph (b)(3) of this section until the owner or operator submits a revised certification of precompliance under paragraph (b)(8) of this section or a certification of compliance under paragraph (c) of this section, or until a permit is issued.

(2) Information required. The following information must be submitted with the certification of precompliance to support the determination that the limits established for the operating parameters identified in paragraph (b)(3) of this section are not likely to result in an exceedance of the allowable emission rates for particulate matter, metals, and HCl and Cl_2:

(i) General facility information:

(A) EPA facility ID number;

(B) Facility name, contact person, telephone number, and address;

(C) Description of boilers and industrial furnaces burning hazardous waste, including type and capacity of device;

(D) A scaled plot plan showing the entire facility and location of the boilers and industrial furnaces burning hazardous waste; and

(E) A description of the air pollution control system on each device burning hazardous waste, including the temperature of the flue gas at the inlet to the particulate matter control system.

(ii) Except for facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by 266.106 (b) or (e) and 266.107 (b)(1) or (e), respectively, the estimated uncontrolled (at the inlet to the air pollution control system) emissions of particulate matter, each metal controlled by 266.106, and hydrogen chloride and chlorine, and the following information to support such determinations: (12/93)

(A) The feed rate (lb/hr) of ash, chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks);

(B) The estimated partitioning factor to the combustion gas for the materials identified in paragraph (b)(2)(ii)(A) of this section and

the basis for the estimate and an estimate of the partitioning to HCl and Cl_2 of total chloride and chlorine in feed materials. To estimate the partitioning factor, the owner or operator must use either best engineering judgment or the procedures specified in Appendix IX of this part.

(C) For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under paragraph (c)(3)(ii)(A), the estimated enrichment factor for each metal. To estimate the enrichment factor, the owner or operator must use either best engineering judgment or the procedures specified in "Alternative Methodology for Implementing Metals Controls" in Appendix IX of this part.

(D) If best engineering judgment is used to estimate partitioning factors or enrichment factors under paragraphs (b)(2)(ii)(B) or (b)(2)(ii)(C) respectively, the basis for the judgment. When best engineering judgment is used to develop or evaluate data or information and make determinations under this section, the determinations must be made by a qualified, registered professional engineer and a certification of his/her determinations in accordance with 270.11(d) of this chapter must be provided in the certification of precompliance.

(iii) For facilities complying with the Tier I or Adjusted Tier I feed rate screening limits for metals or total chlorine and chloride provided by 266.106 (b) or (e) and 266.107 (b)(1) or (e), the feed rate (lb/hr) of total chloride and chlorine, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium in each feedstream (hazardous waste, other fuels, industrial furnace feedstocks). (12/93)

(iv) For facilities complying with the Tier II or Tier III emission limits for metals or HCl and Cl_2 [under 266.106 (c) or (d) or 266.107(b)(2) or (c)], the estimated controlled (outlet of the air pollution control system) emissions rates of particulate matter, each metal controlled by 266.106, and HCl and Cl_2, and the following information to support such determinations:

(A) The estimated air pollution control system (APCS) removal efficiency for particulate matter, HCl, Cl_2, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium.

(B) To estimate APCS removal efficiency, the owner or operator must use either best engineering judgment or the procedures prescribed in Appendix IX of this part.

(C) If best engineering judgment is used to estimate APCS removal efficiency, the basis for the judgment. Use of best engineering judgment must be in conformance with provisions of paragraph (b)(2)(ii)(D) of this section.

(v) Determination of allowable emissions rates for HCl, Cl_2, antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, and thallium, and the following information to support such determinations:

(A) For all facilities:

(1) Physical stack height;

(2) Good engineering practice stack height as defined by 40 CFR 51.100(ii);

(3) Maximum flue gas flow rate;

(4) Maximum flue gas temperature;

(5) Attach a US Geological Service topographic map (or equivalent) showing the facility location and surrounding land within 5 km of the facility;

(6) Identify terrain type: complex or noncomplex; and

(7) Identify land use: urban or rural.

(B) For owners and operators using Tier III site specific dispersion modeling to determine allowable levels under 266.106(d) or 266.107(c), or adjusted Tier I feed rate screening limits under 266.106(e) or 266.107(e):

(1) Dispersion model and version used;

(2) Source of meteorological data;

(3) The dilution factor in micrograms per cubic meter per gram per second of emissions for the maximum annual average offsite (unless onsite is required) ground level concentration (MEI location); and

(4) Indicate the MEI location on the map required under paragraph (b)(2)(v)(A)(5);

(vi) For facilities complying with the Tier II or III emissions rate controls for metals or HCl and Cl_2, a comparison of the estimated controlled emissions rates determined under paragraph (b)(2)(iv) with the allowable emission rates determined under paragraph (b)(2)(v);

(vii) For facilities complying with the Tier I (or adjusted Tier I) feed rate screening limits for metals or total chloride and chlorine, a comparison of actual feed rates of each metal and total chlorine and chloride determined under paragraph (b)(2)(iii) of this section to the Tier I allowable feed rates; and

(viii) For industrial furnaces that feed hazardous waste for any purpose other than solely as an ingredient (as defined by paragraph (a)(5)(ii) of this section) at any location other than the

product discharge end of the device, documentation of compliance with the requirements of paragraphs (a)(5)(i) (A), (B), and (C) of this section.

(ix) For industrial furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions standards under paragraph (c)(3)(ii) (A) of this section:

(A) The applicable particulate matter standard in lb/hr; and

(B) The precompliance limit on the concentration of each metal in collected PM.

(3) Limits on operating conditions. The owner and operator shall establish limits on the following parameters consistent with the determinations made under paragraph (b)(2) of this section and certify (under provisions of paragraph (b)(9) of this section) to the Department that the facility will operate within the limits during interim status when there is hazardous waste in the unit until revised certification of precompliance under paragraph (b)(8) of this section or certification of compliance under paragraph (c) of this section:

(i) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under 266.106(b) or (e)) pumpable hazardous waste;

(ii) Feed rate of each metal in the following feed streams:

(A) Total feed streams, except that industrial furnaces that comply with the alternative metals implementation approach under paragraph (b)(4) of this section must specify limits on the concentration of each metal in collected particulate matter in lieu of feed rate limits for total feedstreams;

(B) Total hazardous waste feed, unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106 (b) or (e); and (12/93)

(C) Total pumpable hazardous waste feed, unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under 266.106 (b) or (e);

(iii) Total feed rate of chlorine and chloride in total feed streams;

(iv) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light weight aggregate kilns is not limited; and

(v) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or Adjusted Tier I feed rate screening limits for chlorine under section 266.107 (b)(1) or (e) and for all metals under section 266.106 (b) or (e), and the uncontrolled particulate emissions do not exceed the standard under section 266.105. (12/93)

(4) Operating requirements for furnaces that recycle PM. Owners and operators of furnaces that recycle collected particulate matter (PM) back into the furnace and that will certify compliance with the metals emissions controls under paragraph (c)(3)(ii)(A) of this section must comply with the special operating requirements provided in "Alternative Methodology for Implementing Metals Controls" in Appendix IX of this part.

(5) Measurement of feed rates and production rate-

(i) General requirements. Limits on each of the parameters specified in paragraph (b)(3) of this section (except for limits on metals concentrations in collected particulate matter (PM) for industrial furnaces that recycle collected PM) shall be established and continuously monitored under either of the following methods:

(A) Instantaneous limits. A limit for a parameter may be established and continuously monitored and recorded on an instantaneous basis (i.e., the value that occurs at any time) not to be exceeded at any time; or (12/93)

(B) Hourly rolling average limits. A limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(2) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(ii) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (arsenic, beryllium, cadmium, and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (b)(5)(i)(B) or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

(A) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(B) The continuous monitor shall meet the following specifications:

(1) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and

computes and records the average value at least every 60 seconds.

(2) The rolling average for the selected averaging period is defined as the arithmetic mean of one hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour.

(iii) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (b)(5)(i) and (ii) of this section.

(6) Public notice requirements at precompliance. On or before August 21, 1991 the owner or operator must submit a notice with the following information for publication in a major local newspaper of general circulation and send a copy of the notice to the appropriate units of State and local government. The owner and operator must provide to the Department with the certification of precompliance evidence of submitting the notice for publication. The notice, which shall be entitled "Notice of Certification of Precompliance with Hazardous Waste Burning Requirements of 266.103(b)" must include:

(i) Name and address of the owner and operator of the facility as well as the location of the device burning hazardous waste;

(ii) Date that the certification of precompliance is submitted to the Department;

(iii) Brief description of the regulatory process required to comply with the interim status requirements of this section including required emissions testing to demonstrate conformance with emissions standards for organic compounds, particulate matter, metals, and HCl and Cl_2;

(iv) Types and quantities of hazardous waste burned including, but not limited to, source, whether solids or liquids, as well as an appropriate description of the waste;

(v) Type of device(s) in which the hazardous waste is burned including a physical description and maximum production rate of each device;

(vi) Types and quantities of other fuels and industrial furnace feedstocks fed to each unit;

(vii) Brief description of the basis for this certification of precompliance as specified in paragraph (b)(2) of this section;

(viii) Locations where the operating record for the facility can be viewed and copied by interested parties. These records and locations shall at a minimum include: (12/93)

(A) The administrative record kept by the Department office where the supporting documentation was submitted or another location designated by the Department; and (12/93)

(B) The BIF correspondence file kept at the facility site where the device is located. The correspondence file must include all correspondence between the facility and the Director, state and local regulatory officials, including copies of all certifications and notifications, such as the precompliance certification, precompliance public notice, notice of compliance testing, compliance test report, compliance certification, time extension requests and approvals or denials, enforcement notifications of violations, and copies of EPA and State site visit reports submitted to the owner or operator. (12/93)

(ix) Notification of the establishment of a facility mailing list whereby interested parties shall notify the Department that they wish to be placed on the mailing list to receive future information and notices about this facility; and

(x) Location (mailing address) of the applicable office where further information can be obtained on regulation of hazardous waste burning.

(7) Monitoring other operating parameters. When the monitoring systems for the operating parameters listed in paragraphs (c)(1)(v through xiii) of this section are installed and operating in conformance with vendor specifications or (for CO, HC, and oxygen) specifications provided by Appendix IX of this part, as appropriate, the parameters shall be continuously monitored and records shall be maintained in the operating record.

(8) Revised certification of precompliance. The owner or operator may revise at any time the information and operating conditions documented under paragraphs (b)(2) and (b)(3) of this section in the certification of precompliance by submitting a revised certification of precompliance under procedures provided by those paragraphs.

(i) The public notice requirements of paragraph (b)(6) of this section do not apply to recertifications.

(ii) The owner and operator must operate the facility within the limits established for the operating parameters under paragraph (b)(3) of this section until a revised certification is submitted under

this paragraph or a certification of compliance is submitted under paragraph (c) of this section.

(9) Certification of precompliance statement. The owner or operator must include the following signed statement with the certification of precompliance submitted to the Department:
"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of 266.103(b) are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating limits established in this certification pursuant to 266.103(b)(3) and (4) are enforceable limits at which the facility can legally operate during interim status until: (1) A revised certification of precompliance is submitted, (2) a certification of compliance is submitted, or (3) an operating permit is issued."

(c) Certification of compliance. The owner or operator shall conduct emissions testing to document compliance with the emissions standards of 266.104 (b) through (e), 266.105, 266.106, 266.107, and paragraph (a)(5)(i)(D) of this section, under the procedures prescribed by this paragraph, except under extensions of time provided by paragraph (c)(7). Based on the compliance test, the owner or operator shall submit to the Department on or before August 21, 1992 a complete and accurate "certification of compliance" (under paragraph (c)(4) of this section) with those emission standards establishing limits on the operating parameters specified in paragraph (c)(1).

(1) Limits on operating conditions. The owner or operator shall establish limits on the following parameters based on operations during the compliance test (under procedures prescribed in paragraph (c)(4)(iv) of this section) or as otherwise specified and include these limits with the certification of compliance. The boiler or industrial furnace must be operated in accordance with these operating limits and the applicable emissions standards of sections 266.104(b) through (e), 266.105, 266.106, 266.107, and 266.103(a)(5)(i)(D) at all times when there is hazardous waste in the unit. (12/93)

(i) Feed rate of total hazardous waste and (unless complying with the Tier I or adjusted Tier I metals feed rate screening limits under 266.106(b) or (e)), pumpable hazardous waste; (12/93; 5/96)

(ii) Feed rate of each metal in the following feedstreams:

(A) Total feedstreams, except that:

(1) Facilities that comply with Tier I or Adjusted Tier I metals feed rate screening limits may set their operating limits at the metals feed rate screening limits determined under 266.106(b) or (e); and (12/93)

(2) Industrial furnaces that must comply with the alternative metals implementation approach under paragraph (c)(3)(ii) of this section must specify limits on the concentration of each metal in the collected particulate matter in lieu of feed rate limits for total feedstreams; (12/93)

(B) Total hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106 (b) or (e)); and

(C) Total pumpable hazardous waste feed (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under sections 266.106(b) or (e)); (12/93)

(iii) Total feed rate of chlorine and chloride in total feed streams , except that facilities that comply with Tier I or Adjusted Tier I feed rate screening limits may set their operating limits at the total chlorine and chloride feed rate screening limits determined under 266.107(b)(1) or (e); (12/93)

(iv) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light weight aggregate kilns is not limited;

(v) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas. When complying with the CO controls of 266.104(b), the CO limit is 100 ppmv, and when complying with the HC controls of 266.104(c), the HC limit is 20 ppmv. When complying with the CO controls of 266.104(c), the CO limit is established based on the compliance test;

(vi) Maximum production rate of the device in appropriate units when producing normal product, unless complying with the Tier I or Adjusted Tier I feed rate screening limits for chlorine under section 266.107(b)(1) or (e) and for all metals under section 266.106(b) or (e), and the uncontrolled particulate emissions do not exceed the standard under section 266.105; (12/93)

(vii) Maximum combustion chamber temperature where the temperature measurement is as close to the combustion zone as possible and is upstream of any quench water injection (unless

complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e)); (12/93)

(viii) Maximum flue gas temperature entering a particulate matter control device (unless complying with Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b) or (e)): (12/93)

(ix) For systems using wet scrubbers, including wet ionizing scrubbers (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b)(1) or (e): (12/93)

(A) Minimum liquid to flue gas ratio;

(B) Minimum scrubber blowdown from the system or maximum suspended solids content of scrubber water; and

(C) Minimum pH level of the scrubber water;

(x) For systems using venturi scrubbers, the minimum differential gas pressure across the venturi (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b)(1) or (e); (12/93)

(xi) For systems using dry scrubbers (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b)(1) or (e): (12/93)

(A) Minimum caustic feed rate; and

(B) Maximum flue gas flow rate;

(xii) For systems using wet ionizing scrubbers or electrostatic precipitators (unless complying with the Tier I or Adjusted Tier I metals feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b)(1) or (e)): (12/93)

(A) Minimum electrical power in kilovolt amperes (kVA) to the precipitator plates; and

(B) Maximum flue gas flow rate;

(xiii) For systems using fabric filters (baghouses), the minimum pressure drop (unless complying with the Tier I or Adjusted Tier I metal feed rate screening limits under 266.106(b) or (e) and the total chlorine and chloride feed rate screening limits under 266.107(b)(1) or (e). (12/93)

(2) Prior notice of compliance testing. At least 30 days prior to the compliance testing required by paragraph (c)(3) of this section, the owner or operator shall notify the Department and submit the following information:

(i) General facility information including:

(A) EPA facility ID number;

(B) Facility name, contact person, telephone number, and address;

(C) Person responsible for conducting compliance test, including company name, address, and telephone number, and a statement of qualifications;

(D) Planned date of the compliance test;

(ii) Specific information on each device to be tested including:

(A) Description of boiler or industrial furnace;

(B) A scaled plot plan showing the entire facility and location of the boiler or industrial furnace;

(C) A description of the air pollution control system;

(D) Identification of the continuous emission monitors that are installed, including:

(1) Carbon monoxide monitor;

(2) Oxygen monitor;

(3) Hydrocarbon monitor, specifying the minimum temperature of the system and, if the temperature is less than 150 □C, an explanation of why a heated system is not used (see paragraph (c)(5) of this section) and a brief description of the sample gas conditioning system;

(E) Indication of whether the stack is shared with another device that will be in operation during the compliance test;

(F) Other information useful to an understanding of the system design or operation.

(iii) Information on the testing planned, including a complete copy of the test protocol and Quality Assurance/Quality Control (QA/QC) plan, and a summary description for each test providing the following information at a minimum:

(A) Purpose of the test (e.g., demonstrate compliance with emissions of particulate matter); and

(B) Planned operating conditions, including levels for each pertinent parameter specified in paragraph (c)(1) of this section.

(3) Compliance testing.-

(i) General. Compliance testing must be conducted under conditions for which the owner or operator has submitted a certification of precompliance under paragraph (b) of this section and

under conditions established in the notification of compliance testing required by paragraph (c)(2) of this section. The owner or operator may seek approval on a case-by-case basis to use compliance test data from one unit in lieu of testing a similar onsite unit. To support the request, the owner or operator must provide a comparison of the hazardous waste burned and other feedstreams, and the design, operation, and maintenance of both the tested unit and the similar unit. The Department shall provide a written approval to use compliance test data in lieu of testing a similar unit if he finds that the hazardous wastes, the devices, and the operating conditions are sufficiently similar, and the data from the other compliance test is adequate to meet the requirements of 266.103(c). (12/93)

(ii) Special requirements for industrial furnaces that recycle collected PM. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must comply with one of the following procedures for testing to determine compliance with the metals standards of 266.106(c) or (d):

(A) The special testing requirements prescribed in "Alternative Method for Implementing Metals Controls" in Appendix IX of this part; or

(B) Stack emissions testing for a minimum of 6 hours each day while hazardous waste is burned during interim status. The testing must be conducted when burning normal hazardous waste for that day at normal feed rates for that day and when the air pollution control system is operated under normal conditions. During interim status, hazardous waste analysis for metals content must be sufficient for the owner or operator to determine if changes in metals content may affect the ability of the facility to meet the metals emissions standards established under 266.106(c) or (d). Under this option, operating limits (under paragraph (c)(1) of this section) must be established during compliance testing under paragraph (c)(3) of this section only on the following parameters;

(1) Feed rate of total hazardous waste;

(2) Total feed rate of chlorine and chloride in total feed streams;

(3) Total feed rate of ash in total feed streams, except that the ash feed rate for cement kilns and light weight aggregate kilns is not limited;

(4) Carbon monoxide concentration, and where required, hydrocarbon concentration in stack gas;

(5) Maximum production rate of the device in appropriate units when producing normal product; or

(C) Conduct compliance testing to determine compliance with the metals standards to establish limits on the operating parameters of paragraph (c)(1) of this section only after the kiln system has been conditioned to enable it to reach equilibrium with respect to metals fed into the system and metals emissions. During conditioning, hazardous waste and raw materials having the same metals content as will be fed during the compliance test must be fed at the feed rates that will be fed during the compliance test.

(iii) Conduct of compliance testing.

(A) If compliance with all applicable emissions standards of 266.104 through 266.107 is not demonstrated simultaneously during a set of test runs, the operating conditions of additional test runs required to demonstrate compliance with remaining emissions standards must be as close as possible to the original operating conditions.

(B) Prior to obtaining test data for purposes of demonstrating compliance with the applicable emissions standards of 266.104 through 266.107 or establishing limits on operating parameters under this section, the facility must operate under compliance test conditions for a sufficient period to reach steady-state operations. Industrial furnaces that recycle collected particulate matter back into the furnace and that comply with paragraphs (c)(3)(ii)(A) or (B) of this section, however, need not reach steady state conditions with respect to the flow of metals in the system prior to beginning compliance testing for metals.

(C) Compliance test data on the level of an operating parameter for which a limit must be established in the certification of compliance must be obtained during emissions sampling for the pollutant(s) (i.e., metals, PM, HCl/Cl_2, organic compounds) for which the parameter must be established as specified by paragraph (c)(1) of this section.

(4) Certification of compliance. Within 90 days of completing compliance testing, the owner or operator must certify to the Department compliance with the emissions standards of 266.104(b), (c), and (e), 266.105, 266.106, 266.107, and paragraph (a)(5)(i)(D) of this section. The certification of compliance must include the following information:

(i) General facility and testing information including:

(A) EPA facility ID number;

(B) Facility name, contact person, telephone number, and address;

(C) Person responsible for conducting compliance testing, including company name, address, and telephone number, and a statement of qualifications;

(D) Date(s) of each compliance test;

(E) Description of boiler or industrial furnace tested;

(F) Person responsible for quality assurance/quality control (QA/QC), title, and telephone number, and statement that procedures prescribed in the QA/QC plan submitted under 266.103(c)(2)(iii) have been followed, or a description of any changes and an explanation of why changes were necessary.

(G) Description of any changes in the unit configuration prior to or during testing that would alter any of the information submitted in the prior notice of compliance testing under paragraph (c)(2) of this section, and an explanation of why the changes were necessary;

(H) Description of any changes in the planned test conditions prior to or during the testing that alter any of the information submitted in the prior notice of compliance testing under paragraph (c)(2) of this section, and an explanation of why the changes were necessary; and

(I) The complete report on results of emissions testing.

(ii) Specific information on each test including:

(A) Purpose(s) of test (e.g., demonstrate conformance with the emissions limits for particulate matter, metals, HCl, Cl_2, and CO)

(B) Summary of test results for each run and for each test including the following information:

(1) Date of run;

(2) Duration of run;

(3) Time-weighted average and highest hourly rolling average CO level for each run and for the test;

(4) Highest hourly rolling average HC level, if HC monitoring is required for each run and for the test;

(5) If dioxin and furan testing is required under 266.104(e), time-weighted average emissions for each run and for the test of chlorinated dioxin and furan emissions, and the predicted maximum annual average ground level concentration of the toxicity equivalency factor;

(6) Time-weighted average particulate matter emissions for each run and for the test;

(7) Time-weighted average HCl and Cl_2 emissions for each run and for the test;

(8) Time-weighted average emissions for the metals subject to regulation under 266.106 for each run and for the test; and

(9) QA/QC results.

(iii) Comparison of the actual emissions during each test with the emissions limits prescribed by 266.104 (b), (c), and (e), 266.105, 266.106, and 266.107 and established for the facility in the certification of precompliance under paragraph (b) of this section.

(iv) Determination of operating limits based on all valid runs of the compliance test for each applicable parameter listed in paragraph (c)(1) of this section using either of the following procedures:

(A) Instantaneous limits. A parameter may be measured and recorded on an instantaneous basis (i.e., the value that occurs at any time) and the operating limit specified as the time-weighted average during all runs of the compliance test; or

(B) Hourly rolling average basis.

(1) The limit for a parameter may be established and continuously monitored on an hourly rolling average basis defined as follows:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) An hourly rolling average is the arithmetic mean of the 60 most recent 1-minute average values recorded by the continuous monitoring system.

(2) The operating limit for the parameter shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average value for each run.

(C) Rolling average limits for carcinogenic metals and lead. Feed rate limits for the carcinogenic metals (i.e., arsenic, beryllium, cadmium and chromium) and lead may be established either on an hourly rolling average basis as prescribed by paragraph (c)(4)(iv)(B) of this section or on (up to) a 24 hour rolling average basis. If the owner or operator elects to use an averaging period from 2 to 24 hours:

(1) The feed rate of each metal shall be limited at any time to ten times the feed rate that would be allowed on an hourly rolling average basis;

(2) The continuous monitor shall meet the following specifications:

(i) A continuous monitor is one which continuously samples the regulated parameter without interruption, and

evaluates the detector response at least once each 15 seconds, and computes and records the average value at least every 60 seconds.

(ii) The rolling average for the selected averaging period is defined as arithmetic mean of one-hour block averages for the averaging period. A one hour block average is the arithmetic mean of the one minute averages recorded during the 60-minute period beginning at one minute after the beginning of preceding clock hour; and

(3) The operating limit for the feed rate of each metal shall be established based on compliance test data as the average over all test runs of the highest hourly rolling average feed rate for each run.

(D) Feed rate limits for metals, total chloride and chlorine, and ash. Feed rate limits for metals, total chlorine and chloride, and ash are established and monitored by knowing the concentration of the substance (i.e., metals, chloride/chlorine, and ash) in each feedstream and the flow rate of the feedstream. To monitor the feed rate of these substances, the flow rate of each feedstream must be monitored under the continuous monitoring requirements of paragraphs (c)(4)(iv) (A) through (C) of this section.

(v) Certification of compliance statement. The following statement shall accompany the certification of compliance:

"I certify under penalty of law that this information was prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information and supporting documentation. Copies of all emissions tests, dispersion modeling results and other information used to determine conformance with the requirements of 266.103(c) are available at the facility and can be obtained from the facility contact person listed above. Based on my inquiry of the person or persons who manages the facility, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I also acknowledge that the operating conditions established in this certification pursuant to 266.103(c)(4)(iv) are enforceable limits at which the facility can legally operate during interim status until a revised certification of compliance is submitted."

(5) Special requirements for HC monitoring systems. When an owner or operator is required to comply with the hydrocarbon (HC) controls provided by 266.104(c) or paragraph (a)(5)(i)(D) of this section, a conditioned gas monitoring system may be used in conformance with specifications provided in Appendix IX of this part provided that the owner or operator submits a certification of compliance without using extensions of time provided by paragraph (c)(7) of this section. (12/93,11/99)

(6) Special operating requirements for industrial furnaces that recycle collected PM. Owners and operators of industrial furnaces that recycle back into the furnace particulate matter (PM) from the air pollution control system must:

(i) When complying with the requirements of paragraph (c)(3)(ii)(A) of this section, comply with the operating requirements prescribed in "Alternative Method to Implement the Metals Controls" in Appendix IX of this part; and

(ii) When complying with the requirements of paragraph (c)(3)(ii)(B) of this section, comply with the operating requirements prescribed by that paragraph.

(7) Extensions of time.

(i) If the owner or operator does not submit a complete certification of compliance for all of the applicable emissions standards of 266.104, 266.105, 266.106, and 266.107 by August 21, 1992, he/she must either:

(A) Stop burning hazardous waste and begin closure activities under paragraph (l) of this section for the hazardous waste portion of the facility; or

(B) Limit hazardous waste burning only for purposes of compliance testing (and pretesting to prepare for compliance testing) a total period of 720 hours for the period of time beginning August 21, 1992, submit a notification to the Department by August 21, 1992 stating that the facility is operating under restricted interim status and intends to resume burning hazardous waste, and submit a complete certification of compliance by August 23, 1993; or

(C) Obtain a case-by-case extension of time under paragraph (c)(7)(ii) of this section.

(ii) The owner or operator may request a case-by-case extension of time to extend any time limit provided by paragraph (c) of this section if compliance with the time limit is not practicable for reasons beyond the control of the owner or operator.

(A) In granting an extension, the Department may apply conditions as the facts warrant to ensure timely compliance with the requirements of this section and that the facility operates in a manner that does not pose a hazard to human health and the environment;

(B) When an owner or operator requests an extension of time to enable the facility to comply with the alternative hydrocarbon provisions of 266.104(f) and obtain a RCRA operating permit because the facility cannot meet the HC limit of 266.104(c) of this chapter: (12/93)

(1) The Department shall, in considering whether to grant the extension:

(i) Determine whether the owner and operator have submitted in a timely manner a complete part B permit application that includes information required under 270.22(b) of this chapter; and

(ii) Consider whether the owner and operator have made a good faith effort to certify compliance with all other emission controls, including the controls on dioxins and furans of 266.104(e) and the controls on PM, metals, and HCl/Cl_2.

(2) If an extension is granted, the Department shall, as a condition of the extension, require the facility to operate under flue gas concentration limits on CO and HC that, based on available information, including information in the part B permit application, are baseline CO and HC levels as defined by 266.104(f)(1).

(8) Revised certification of compliance. The owner or operator may submit at any time a revised certification of compliance (recertification of compliance) under the following procedures:

(i) Prior to submittal of a revised certification of compliance, hazardous waste may not be burned for more than a total of 720 hours under operating conditions that exceed those established under a current certification of compliance, and such burning may be conducted only for purposes of determining whether the facility can operate under revised conditions and continue to meet the applicable emissions standards of 266.104, 266.105, 266.106, and 266.107;

(ii) At least 30 days prior to first burning hazardous waste under operating conditions that exceed those established under a current certification of compliance, the owner or operator shall notify the Department and submit the following information:

(A) EPA facility ID number, and facility name, contact person, telephone number, and address;

(B) Operating conditions that the owner or operator is seeking to revise and description of the changes in facility design or operation that prompted the need to seek to revise the operating conditions;

(C) A determination that when operating under the revised operating conditions, the applicable emissions standards of 266.104, 266.105, 266.106, and 266.107 are not likely to be exceeded. To document this determination, the owner or operator shall submit the applicable information required under paragraph (b)(2) of this section; and

(D) Complete emissions testing protocol for any pretesting and for a new compliance test to determine compliance with the applicable emissions standards of 266.104, 266.105, 266.106, and 266.107 when operating under revised operating conditions. The protocol shall include a schedule of pre-testing and compliance testing. If the owner and operator revises the scheduled date for the compliance test, he/she shall notify the Department in writing at least 30 days prior to the revised date of the compliance test;

(iii) Conduct a compliance test under the revised operating conditions and the protocol submitted to the Department to determine compliance with the applicable emissions standards of 266.104, 266.105, 266.106, and 266.107; and

(iv) Submit a revised certification of compliance under paragraph (c)(4) of this section.

(d) Periodic Recertifications. The owner or operator must conduct compliance testing and submit to the Department a recertification of compliance under provisions of paragraph (c) of this section within five years from submitting the previous certification or recertification. If the owner or operator seeks to recertify compliance under new operating conditions, he/she must comply with the requirements of paragraph (c)(8) of this section.

(e) Noncompliance with certification schedule. If the owner or operator does not comply with the interim status compliance schedule provided by paragraphs (b), (c), and (d) of this section, hazardous waste burning must terminate on the date that the deadline is missed, closure activities must begin under paragraph (l) of this section, and hazardous waste burning may not resume except under an operating permit issued under 270.66 of this chapter. For purposes of compliance with the closure provisions of paragraph (l) of this section and 265.112(d)(2) and 265.113 of this chapter the boiler or industrial furnace has received "the known final volume of hazardous waste" on the date that the deadline is missed. (12/93)

(f) Startup and shutdown. Hazardous waste (except waste fed solely as an ingredient under the Tier I (or adjusted Tier I) feed rate screening limits for metals and chloride/chlorine) must not be fed into the device during startup and shutdown of the boiler or industrial furnace, unless the device is operating within the conditions of operation specified in the certification of compliance.

(g) Automatic waste feed cutoff. During the compliance test required by paragraph (c)(3) of this

section, and upon certification of compliance under paragraph (c) of this section, a boiler or industrial furnace must be operated with a functioning system that automatically cuts off the hazardous waste feed when the applicable operating conditions specified in paragraphs (c)(1) (i) and (v through xiii) of this section deviate from those established in the certification of compliance. In addition:

(1) To minimize emissions of organic compounds, the minimum combustion chamber temperature (or the indicator of combustion chamber temperature) that occurred during the compliance test must be maintained while hazardous waste or hazardous waste residues remain in the combustion chamber, with the minimum temperature during the compliance test defined as either:

(i) If compliance with the combustion chamber temperature limit is based on an hourly rolling average, the minimum temperature during the compliance test is considered to be the average over all runs of the lowest hourly rolling average for each run; or

(ii) If compliance with the combustion chamber temperature limit is based on an instantaneous temperature measurement, the minimum temperature during the compliance test is considered to be the time-weighted average temperature during all runs of the test; and

(2) Operating parameters limited by the certification of compliance must continue to be monitored during the cutoff, and the hazardous waste feed shall not be restarted until the levels of those parameters comply with the limits established in the certification of compliance.

(h) Fugitive emissions. Fugitive emissions must be controlled by:

(1) Keeping the combustion zone totally sealed against fugitive emissions; or

(2) Maintaining the combustion zone pressure lower than atmospheric pressure; or

(3) An alternate means of control that the owner or operator can demonstrate provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. Support for such demonstration shall be included in the operating record.

(i) Changes. A boiler or industrial furnace must cease burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the boiler or industrial furnace design or operating conditions deviate from the limits specified in the certification of compliance.

(j) Monitoring and Inspections.

(1) The owner or operator must monitor and record the following, at a minimum, while burning hazardous waste:

(i) Feed rates and composition of hazardous waste, other fuels, and industrial furnace feed stocks, and feed rates of ash, metals, and total chloride and chlorine as necessary to ensure conformance with the certification of precompliance or certification of compliance;

(ii) Carbon monoxide (CO), oxygen, and if applicable, hydrocarbons (HC), on a continuous basis at a common point in the boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with the operating limits specified in the certification of compliance. CO, HC, and oxygen monitors must be installed, operated, and maintained in accordance with methods specified in Appendix IX of this part.

(iii) Upon the request of the Department, sampling and analysis of the hazardous waste (and other fuels and industrial furnace feed stocks as appropriate) and the stack gas emissions must be conducted to verify that the operating conditions established in the certification of precompliance or certification of compliance achieve the applicable standards of 266.104, 266.105, 266.106, and 266.107.

(2) The boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) must be subjected to thorough visual inspection when they contain hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.

(3) The automatic hazardous waste feed cutoff system and associated alarms must be tested at least once every 7 days when hazardous waste is burned to verify operability, unless the owner or operator can demonstrate that weekly inspections will unduly restrict or upset operations and that less frequent inspections will be adequate. Support for such demonstration shall be included in the operating record. At a minimum, operational testing must be conducted at least once every 30 days.

(4) These monitoring and inspection data must be recorded and the records must be placed in the operating log.

(k) Recordkeeping. The owner or operator must keep in the operating record of the facility all information and data required by this section for five years. (12/93, 6/08)

(l) Closure. At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the boiler or

industrial furnace and must comply with 265.111 - 265.115 of this chapter.

266.104 Standards to control organic emissions

(a) DRE standard.

(1) General. Except as provided in paragraph (a)(3) of this section, a boiler or industrial furnace burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for all organic hazardous constituents in the waste feed. To demonstrate conformance with this requirement, 99.99% DRE must be demonstrated during a trial burn for each principal organic hazardous constituent (POHC) designated (under paragraph (a)(2) of this section) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \left[1 - \frac{W_{out}}{W_{in}} \right] x\,100$$

where:

W_{in}= Mass feed rate of one principal organic hazardous constituent (POHC) in the hazardous waste fired to the boiler or industrial furnace; and

W_{out}= Mass emission rate of the same POHC present in stack gas prior to release to the atmosphere.

(2) Designation of POHCs. Principal organic hazardous constituents (POHCs) are those compounds for which compliance with the DRE requirements of this section shall be demonstrated in a trial burn in conformance with procedures prescribed in 270.66 of this chapter. One or more POHCs shall be designated by the Department for each waste feed to be burned. POHCs shall be designated based on the degree of difficulty of destruction of the organic constituents in the waste and on their concentrations or mass in the waste feed considering the results of waste analyses submitted with part B of the permit application. POHCs are most likely to be selected from among those compounds listed in part 261, Appendix VIII of this chapter that are also present in the normal waste feed. However, if the applicant demonstrates to the Department satisfaction that a compound not listed in Appendix VIII or not present in the normal waste feed is a suitable indicator of compliance with the DRE requirements of this section, that compound may be designated as a POHC. Such POHCs need not be toxic or organic compounds.

(3) Dioxin-listed waste. A boiler or industrial furnace burning hazardous waste containing (or derived from) EPA Hazardous Wastes Nos. F020, F021, F022, F023, F026, or F027 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each POHC designated (under paragraph (a)(2) of this section) in its permit. This performance must be demonstrated on POHCs that are more difficult to burn than tetra-, penta-, and hexachlorodibenzo-p-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in paragraph (a)(1) of this section. In addition, the owner or operator of the boiler or industrial furnace must notify the Department of intent to burn EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(4) Automatic waiver of DRE trial burn. Owners and operators of boilers operated under the special operating requirements provided by 266.110 are considered to be in compliance with the DRE standard of paragraph (a)(1) of this section and are exempt from the DRE trial burn.

(5) Low risk waste. Owners and operators of boilers or industrial furnaces that burn hazardous waste in compliance with the requirements of 266.109(a) are considered to be in compliance with the DRE standard of paragraph (a)(1) of this section and are exempt from the DRE trial burn.

(b) Carbon monoxide standard.

(1) Except as provided in paragraph (c) of this section, the stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste cannot exceed 100 ppmv on an hourly rolling average basis (i.e., over any 60 minute period), continuously corrected to 7 percent oxygen, dry gas basis.

(2) CO and oxygen shall be continuously monitored in conformance with "Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in Appendix IX of this part.

(3) Compliance with the 100 ppmv CO limit must be demonstrated during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). To demonstrate compliance, the highest hourly rolling average CO level during any valid run of the trial burn or compliance test must not exceed 100 ppmv.

(c) Alternative carbon monoxide standard.

(1) The stack gas concentration of carbon monoxide (CO) from a boiler or industrial furnace burning hazardous waste may exceed the 100 ppmv limit provided that stack gas concentrations of hydrocarbons (HC) do not exceed 20 ppmv, except as provided by paragraph (f) of this section for certain industrial furnaces.

(2) HC limits must be established under this section on an hourly rolling average basis (i.e., over any 60-minute period), reported as propane, and continuously corrected to 7 percent oxygen, dry gas basis.

(3) HC shall be continuously monitored in

conformance with "Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste" in Appendix IX of this part. CO and oxygen shall be continuously monitored in conformance with paragraph (b)(2) of this section.

(4) The alternative CO standard is established based on CO data during the trial burn (for a new facility) and the compliance test (for an interim status facility). The alternative CO standard is the average over all valid runs of the highest hourly average CO level for each run. The CO limit is implemented on an hourly rolling average basis, and continuously corrected to 7 percent oxygen, dry gas basis.

(d) Special requirements for furnaces. Owners and operators of industrial furnaces (e.g., kilns, cupolas) that feed hazardous waste for a purpose other than solely as an ingredient (see 266.103(a)(5)(ii)) at any location other than the end where products are normally discharged and where fuels are normally fired must comply with the hydrocarbon limits provided by paragraphs (c) or (f) of this section irrespective of whether stack gas CO concentrations meet the 100 ppmv limit of paragraph (b) of this section.

(e) Controls for dioxins and furans. Owners and operators of boilers and industrial furnaces that are equipped with a dry particulate matter control device that operates within the temperature range of 450 - 750 °F, and industrial furnaces operating under an alternative hydrocarbon limit established under paragraph (f) of this section must conduct a site-specific risk assessment as follows to demonstrate that emissions of chlorinated dibenzo-p-dioxins and dibenzofurans do not result in an increased lifetime cancer risk to the hypothetical maximum exposed individual (MEI) exceeding 1 in 100,000:

(1) During the trial burn (for new facilities or an interim status facility applying for a permit) or compliance test (for interim status facilities), determine emission rates of the tetra-octa congeners of chlorinated dibenzo-p-dioxins and dibenzofurans (CDDs/CDFs) using Method 0023a, "Sampling Method for Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofurans Emissions from Stationary Sources," EPA Publication SW 846, as incorporated by reference in 260.11 of this chapter. (9/98)

(2) Estimate the 2,3,7,8-TCDD toxicity equivalence of the tetra-octa CDDs/CDFs congeners using "Procedures for Estimating the Toxicity Equivalence of Chlorinated Dibenzo-p-Dioxin and Dibenzofuran Congeners" in Appendix IX of this part. Multiply the emission rates of CDD/CDF congeners with a toxicity equivalence greater than zero (see the procedure) by the calculated toxicity equivalence factor to estimate the equivalent emission rate of 2,3,7,8-TCDD;

(3) Conduct dispersion modeling using methods recommended in Appendix W of part 51 ("Guidelines on Air Quality Models (Revised)" (1986) and its supplements), the "Hazardous Waste Combustion Air Quality Screening Procedure," provided in Appendix IX of this part, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, Revised (incorporated by reference in 260.11) to predict the maximum annual average offsite ground level concentration of 2,3,7,8-TCDD equivalents determined under paragraph (e)(2) of this section. The maximum annual average concentration must be used when a person resides onsite; (12/94) and

(4) The ratio of the predicted maximum annual average ground level concentration of 2,3,7,8-TCDD equivalents to the risk-specific dose for 2,3,7,8-TCDD provided in Appendix V of this part (2.2×10^{-7}) shall not exceed 1.0.

(f) Monitoring CO and HC in the by-pass duct of a cement kiln. Cement kilns may comply with the carbon monoxide and hydrocarbon limits provided by paragraphs (b), (c), and (d) of this section by monitoring in the by-pass duct provided that (moved from (g) 5/96):

(1) Hazardous waste is fired only into the kiln and not at any location downstream from the kiln exit relative to the direction of gas flow; and

(2) The by-pass duct diverts a minimum of 10% of kiln off-gas into the duct.

(g) Use of emissions test data to demonstrate compliance and establish operating limits. Compliance with the requirements of this section must be demonstrated simultaneously by emissions testing or during separate runs under identical operating conditions. Further, data to demonstrate compliance with the CO and HC limits of this section or to establish alternative CO or HC limits under this section must be obtained during the time that DRE testing, and where applicable, CDD/CDF testing under paragraph (e) of this section and comprehensive organic emissions testing under paragraph (f) is conducted. (moved from (h) 5/96)

(h) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and re-issuance of a permit under 270.41 of this chapter (moved from (i) 5/96).

(i) [Reserved 5/96]

266.105 Standards to control particulate matter

(a) A boiler or industrial furnace burning hazardous waste may not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) after correction to a stack gas concentration of 7% oxygen, using procedures prescribed in 40 CFR part 60, Appendix A, methods 1 through 5, and Appendix IX of this part.

(b) An owner or operator meeting the requirements of 266.109(b) for the low risk waste exemption is exempt from the particulate matter standard.

(c) Oxygen correction. (9/01)

(1) Measured pollutant levels must be corrected for the amount of oxygen in the stack gas according to the formula:

$$Pc = Pm \times 14/(E - Y)$$

Where:
Pc is the corrected concentration of the pollutant in the stack gas, Pm is the measured concentration of the pollutant in the stack gas, E is the oxygen concentration on a dry basis in the combustion air fed to the device, and Y is the measured oxygen concentration on a dry basis in the stack.

(2) For devices that feed normal combustion air, E will equal 21 percent. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21 percent), the value of E will be the concentration of oxygen in the enriched air.

(3) Compliance with all emission standards provided by this subpart must be based on correcting to 7 percent oxygen using this procedure.

(d) For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and re-issuance of a permit under 270.41 of this chapter. (9/01)

266.106 Standards to control metals emissions

(a) General. The owner or operator must comply with the metals standards provided by paragraphs (b), (c), (d), (e), or (f) of this section for each metal listed in paragraph (b) of this section that is present in the hazardous waste at detectable levels using analytical procedures specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846), incorporated by reference in 260.11 of this chapter.

(b) Tier I feed rate screening limits. Feed rate screening limits for metals are specified in Appendix I of this part as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (b)(7) of this section.

(1) Noncarcinogenic metals. The feed rates of antimony, barium, lead, mercury, thallium, and silver in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the screening limits specified in Appendix I of this part.

(i) The feed rate screening limits for antimony, barium, mercury, thallium, and silver are based on either:

(A) An hourly rolling average as defined in 266.102(e)(6)(i)(B); or

(B) An instantaneous limit not to be exceeded at any time.

(ii) The feed rate screening limit for lead is based on one of the following:

(A) An hourly rolling average as defined in 266.102(e)(6)(i)(B);

(B) An averaging period of 2 to 24 hours as defined in 266.102(e)(6)(ii) with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis; or

(C) An instantaneous limit not to be exceeded at any time.

(2) Carcinogenic metals.

(i) The feed rates of arsenic, cadmium, beryllium, and chromium in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed values derived from the screening limits specified in Appendix I of this part. The feed rate of each of these metals is limited to a level such that the sum of the ratios of the actual feed rate to the feed rate screening limit specified in Appendix I shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^{n} \frac{AFR_{(i)}}{FRSL_{(i)}} \leq 1.0$$

where:
n = number of carcinogenic metals
AFR = actual feed rate to the device for metal "i"
FRSL = feed rate screening limit provided by Appendix I of this part for metal "i".

(ii) The feed rate screening limits for the carcinogenic metals are based on either:

(A) An hourly rolling average; or

(B) An averaging period of 2 to 24 hours as defined in 266.102(e)(6)(ii) with an instantaneous feed rate limit not to exceed 10 times the feed rate that would be allowed on an hourly rolling average basis.

(3) TESH.

(i) The terrain-adjusted effective stack height is determined according to the following equation:

TESH=Ha+H1-Tr

where:

Ha = Actual physical stack height

H1 = Plume rise as determined from Appendix VI of this part as a function of stack flow rate and stack gas exhaust temperature.

Tr = Terrain rise within five kilometers of the stack.

(ii) The stack height (Ha) may not exceed good engineering practice as specified in 40 CFR 51.100(ii).

(iii) If the TESH for a particular facility is not listed in the table in the appendices, the nearest lower TESH listed in the table shall be used. If the TESH is four meters or less, a value of four meters shall be used.

(4) Terrain type. The screening limits are a function of whether the facility is located in noncomplex or complex terrain. A device located where any part of the surrounding terrain within 5 kilometers of the stack equals or exceeds the elevation of the physical stack height (Ha) is considered to be in complex terrain and the screening limits for complex terrain apply. Terrain measurements are to be made from U.S. Geological Survey 7.5-minute topographic maps of the area surrounding the facility.

(5) Land use. The screening limits are a function of whether the facility is located in an area where the land use is urban or rural. To determine whether land use in the vicinity of the facility is urban or rural, procedures provided in appendices IX or X of this part shall be used.

(6) Multiple stacks. Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls of metals emissions under a RCRA operating permit or interim status controls must comply with the screening limits for all such units assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics. The worst-case stack is determined from the following equation as applied to each stack:

K=HVT

Where:

K = a parameter accounting for relative influence of stack height and plume rise;

H = physical stack height (meters);

V = stack gas flow rate (m^3/second); and

T = exhaust temperature (^oK).

The stack with the lowest value of K is the worst-case stack.

(7) Criteria for facilities not eligible for screening limits. If any criteria below are met, the Tier I and Tier II screening limits do not apply. Owners and operators of such facilities must comply with either the Tier III standards provided by paragraph (d) of this section or with the adjusted Tier I feed rate screening limits provided by paragraph (e) of this section. (12/93)

(i) The device is located in a narrow valley less than one kilometer wide;

(ii) The device has a stack taller than 20 meters and is located such that the terrain rises to the physical height within one kilometer of the facility;

(iii) The device has a stack taller than 20 meters and is located within five kilometers of a shoreline of a large body of water such as an ocean or large lake;

(iv) The physical stack height of any stack is less than 2.5 times the height of any building within five building heights or five projected building widths of the stack and the distance from the stack to the closest boundary is within five building heights or five projected building widths of the associated building; or

(v) The Department determines that standards based on site-specific dispersion modeling are required.

(8) Implementation. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate screening limits are not exceeded.

(c) Tier II emission rate screening limits. Emission rate screening limits are specified in Appendix I as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. Criteria for facilities that are not eligible to comply with the screening limits are provided in paragraph (b)(7) of this section.

(1) Noncarcinogenic metals. The emission rates of antimony, barium, lead, mercury, thallium, and silver shall not exceed the screening limits specified in Appendix I of this part.

(2) Carcinogenic metals. The emission rates of arsenic, cadmium, beryllium, and chromium shall not exceed values derived from the screening limits specified in Appendix I of this part. The emission rate of each of these metals is limited to a level such that the sum of the ratios of the actual emission rate to the emission rate screening limit

specified in Appendix I shall not exceed 1.0, as provided by the following equation:

$$\sum_{i=1}^{n} \frac{AER_{(i)}}{ERSL_{(i)}} \leq 1.0$$

where:
n = number of carcinogenic metals
AER = actual emission rate for metal "i"
ERSL = emission rate screening limit provided by Appendix I of this part for metal "i".

(3) Implementation. The emission rate limits must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by paragraphs (b)(1)(i) and (ii) and (b)(2)(ii) of this section. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under 266.102 or 266.103 are not exceeded.

(4) Definitions and limitations. The definitions and limitations provided by paragraph (b) of this section for the following terms also apply to the Tier II emission rate screening limits provided by paragraph (c) of this section: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.

(5) Multiple stacks.

(i) Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a RCRA operating permit or interim status controls must comply with the emissions screening limits for any such stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

(ii) The worst-case stack is determined by procedures provided in paragraph (b)(6) of this section.

(iii) For each metal, the total emissions of the metal from those stacks shall not exceed the screening limit for the worst-case stack.

(d) Tier III and Adjusted Tier I site-specific risk assessment. The requirements of this paragraph apply to facilities complying with either the Tier III or Adjusted Tier I controls, except where specified otherwise. (12/93)

(1) General. Conformance with the Tier III metals controls must be demonstrated by emissions testing to determine the emission rate for each metal. In addition, conformance with either the Tier III or Adjusted Tier I metals controls must be demonstrated by air dispersion modeling to predict the maximum annual average offsite ground level concentration for each metal, and a demonstration that acceptable ambient levels are not exceeded. (12/93)

(2) Acceptable ambient levels. Appendices IV and V of this part list the acceptable ambient levels for purposes of this rule. Reference air concentrations (RACs) are listed for the noncarcinogenic metals and 10^{-5} risk-specific doses (RSDs) are listed for the carcinogenic metals. The RSD for a metal is the acceptable ambient level for that metal provided that only one of the four carcinogenic metals is emitted. If more than one carcinogenic metal is emitted, the acceptable ambient level for the carcinogenic metals is a fraction of the RSD as described in paragraph (d)(3) of this section.

(3) Carcinogenic metals. For the carcinogenic metals, arsenic, cadmium, beryllium, and chromium, the sum of the ratios of the predicted maximum annual average offsite ground level concentrations (except that onsite concentrations must be considered if a person resides on site) to the risk-specific dose (RSD) for all carcinogenic metals emitted shall not exceed 1.0 as determined by the following equation:

$$\sum_{i=1}^{n} \frac{Predicted\ Ambient\ Concentration_{(i)}}{Risk\text{-}Specific\ Dose_{(i)}} \leq 1.0$$

where: n = number of carcinogenic metals

(4) Noncarcinogenic metals. For the noncarcinogenic metals, the predicted maximum annual average offsite ground level concentration for each metal shall not exceed the reference air concentration (RAC).

(5) Multiple stacks. Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on metals emissions under a RCRA operating permit or interim status controls must conduct emissions testing (except that facilities complying with Adjusted Tier I controls need not conduct emissions testing) and dispersion modeling to demonstrate that the aggregate emissions from all such onsite stacks do not result in an exceedance of the acceptable ambient levels. (12/93)

(6) Implementation. Under Tier III, the metals controls must be implemented by limiting feed rates of the individual metals to levels during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate averaging periods are the same as provided by paragraphs (b)(1)(i) and (ii) and (b)(2)(ii) of this section. The feed rate of metals in each feedstream must be monitored to ensure that the feed rate limits for the feedstreams specified under 266.102 or 266.103 are not exceeded.

(e) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limits provided by Appendix I to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit for a metal is determined by back-calculating from the acceptable ambient levels provided by Appendices IV and V using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit. The feed rate screening limits for carcinogenic metals are implemented as prescribed in paragraph (b)(2).

(f) Alternative implementation approaches.

(1) The Department may approve on a case-by-case basis approaches to implement the Tier II or Tier III metals emission limits provided by paragraphs (c) or (d) of this section alternative to monitoring the feed rate of metals in each feedstream.

(2) The emission limits provided by paragraph (d) of this section must be determined as follows:

(i) For each noncarcinogenic metal, by back-calculating from the RAC provided in Appendix IV of this part to determine the allowable emission rate for each metal using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (h) of this section; and

(ii) For each carcinogenic metal by:

(A) Back-calculating from the RSD provided in Appendix V of this part to determine the allowable emission rate for each metal if that metal were the only carcinogenic metal emitted using the dilution factor for the maximum annual average ground level concentration predicted by dispersion modeling in conformance with paragraph (h) of this section; and

(B) If more than one carcinogenic metal is emitted, selecting an emission limit for each carcinogenic metal not to exceed the emission rate determined by paragraph (f)(2)(ii)(A) of this section such that the sum for all carcinogenic metals of the ratios of the selected emission limit to the emission rate determined by that paragraph does not exceed 1.0.

(g) Emission testing.

(1) General. Emission testing for metals shall be conducted using Method 0060, Determinations of Metals in Stack Emissions, EPA Publication SW 846, as incorporated by reference in 260.11 of this chapter. (9/98)

(2) Hexavalent chromium. Emissions of chromium are assumed to be hexavalent chromium unless the owner or operator conducts emissions testing to determine hexavalent chromium emissions using procedures prescribed in Method 0061, Determination of Hexavalent Chromium Emissions from Stationary Sources, EPA publication SW846, as incorporated by reference in 260.11 of this part. (9/98)

(h) Dispersion Modeling. Dispersion modeling required under this section shall be conducted according to methods recommended in Appendix W, 40 CFR part 51 ("Guidelines on Air Quality Models (Revised)" (1986) and its supplements," the "Hazardous Waste Combustion Air Quality Screening Procedure," provided in Appendix IX of this part, or in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, (incorporated by reference in 260.11) to predict the maximum annual average offsite ground level concentration. However, onsite concentration must be considered when a person resides onsite. (12/94)

(i) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and re-issuance of a permit under 270.41 of this chapter.

266.107 Standards to control hydrogen chloride (HCl) and chlorine gas (Cl_2) emissions

(a) General. The owner or operator must comply with the hydrogen chloride (HCl) and chlorine (Cl_2) controls provided by paragraph (b) , (c), or (e) of this section. (12/93)

(b) Screening limits.

(1) Tier I feed rate screening limits. Feed rate screening limits are specified for total chlorine in Appendix II of this part as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The feed rate of total chlorine and chloride, both organic and inorganic, in all feed streams, including hazardous waste, fuels, and industrial furnace feed stocks shall not exceed the levels specified.

(2) Tier II emission rate screening limits. Emission rate screening limits for HCl and Cl_2 are specified in Appendix III of this part as a function of terrain-adjusted effective stack height and terrain and land use in the vicinity of the facility. The stack emission rates of HCl and Cl_2 shall not exceed the levels specified.

(3) Definitions and limitations. The definitions and limitations provided by 266.106(b) for the following terms also apply to the screening limits provided by this paragraph: terrain-adjusted effective stack height, good engineering practice stack height, terrain type, land use, and criteria for facilities not eligible to use the screening limits.

(4) Multiple stacks. Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl_2 emissions under a RCRA operating permit or interim status controls must comply with the Tier I and Tier II screening limits for those stacks assuming all hazardous waste is fed into the device with the worst-case stack based on dispersion characteristics.

(i) The worst-case stack is determined by procedures provided in 266.106(b)(6).

(ii) Under Tier I, the total feed rate of chlorine and chloride to all subject devices shall not exceed the screening limit for the worst-case stack.

(iii) Under Tier II, the total emissions of HCl and Cl_2 from all subject stacks shall not exceed the screening limit for the worst-case stack.

(c) Tier III site-specific risk assessments.

(1) General. Conformance with the Tier III controls must be demonstrated by emissions testing to determine the emission rate for HCl and Cl_2, air dispersion modeling to predict the maximum annual average offsite ground level concentration for each compound, and a demonstration that acceptable ambient levels are not exceeded.

(2) Acceptable ambient levels. Appendix IV of this part lists the reference air concentrations (RACs) for HCl (7 micrograms per cubic meter) and Cl_2 (0.4 micrograms per cubic meter).

(3) Multiple stacks. Owners and operators of facilities with more than one onsite stack from a boiler, industrial furnace, incinerator, or other thermal treatment unit subject to controls on HCl or Cl_2 emissions under a RCRA operating permit or interim status controls must conduct emissions testing and dispersion modeling to demonstrate that the aggregate emissions from all such onsite stacks do not result in an exceedance of the acceptable ambient levels for HCl and Cl_2.

(d) Averaging periods. The HCl and Cl_2 controls are implemented by limiting the feed rate of total chlorine and chloride in all feedstreams, including hazardous waste, fuels, and industrial furnace feed stocks. Under Tier I, the feed rate of total chloride and chlorine is limited to the Tier I Screening Limits. Under Tier II and Tier III, the feed rate of total chloride and chlorine is limited to the feed rates during the trial burn (for new facilities or an interim status facility applying for a permit) or the compliance test (for interim status facilities). The feed rate limits are based on either:

(1) An hourly rolling average as defined in 266.102(e)(6); or

(2) An instantaneous basis not to be exceeded at any time.

(e) Adjusted Tier I feed rate screening limits. The owner or operator may adjust the feed rate screening limit provided by Appendix II of this part to account for site-specific dispersion modeling. Under this approach, the adjusted feed rate screening limit is determined by back-calculating from the acceptable ambient level for Cl_2 provided by Appendix IV of this part using dispersion modeling to determine the maximum allowable emission rate. This emission rate becomes the adjusted Tier I feed rate screening limit.

(f) Emissions testing. Emissions testing for HCl and Cl_2 shall be conducted using the procedures described in Methods 0050 or 0051, EPA Publication SW846, as incorporated by reference in 260.11 of this part.(9/98)

(g) Dispersion modeling. Dispersion modeling shall be conducted according to the provisions of 266.106(h)

(h) Enforcement. For the purposes of permit enforcement, compliance with the operating requirements specified in the permit (under 266.102) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the requirements of this section may be "information" justifying modification or revocation and reissuance of a permit under 270.41 of this chapter.

266.108 Small quantity onsite burner exemption

(a) Exempt quantities. Owners and operators of facilities that burn hazardous waste in an onsite boiler or industrial furnace are exempt from the requirements of this subpart provided that: (12/93)

(1) The quantity of hazardous waste burned in a device for a calendar month does not exceed the limits provided in the following table based on the terrain-adjusted effective stack height as defined in 266.106(b)(3):

Exempt Quantities for Small Quantity Burner Exemption

Terrain-adjusted effective stack height of device (meters)	Allowable haz. waste burning rate (gallons/month)	Terrain-adjusted effective stack height of device (meters)	Allowable hazardous waste burning rate (gallons/month)
0 to 3.9	0	40.0 to 44.9	210
4.0 to 5.9	13	45.0 to 49.9	260
6.0 to 7.9	18	50.0 to 54.9	330

8.0 to 9.9	27	55.0 to 59.9	400
10.0 to 11.9	40	60.0 to 64.9	490
12.0 to 13.9	48	65.0 to 69.9	610
14.0 to 15.9	59	70.0 to 74.9	680
16.0 to 17.9	69	75.0 to 79.9	760
18.0 to 19.9	76	80.0 to 84.9	850
20.0 to 21.9	84	85.0 to 89.9	960
22.0 to 23.9	93	90.0 to 94.9	1,100
24.0 to 25.9	100	95.0 to 99.9	1,200
26.0 to 27.9	110	100.0 to 104.9	1,300
28.0 to 29.9	130	105.0 to 109.9	1,500
30.0 to 34.9	140	110.0 to 114.9	1,700
35.0 to 39.9	170	115.0 or greater	1,900

(2) The maximum hazardous waste firing rate does not exceed at any time 1 percent of the total fuel requirements for the device (hazardous waste plus other fuel) on a total heat input or mass input basis, whichever results in the lower mass feed rate of hazardous waste. (12/93)

(3) The hazardous waste has a minimum heating value of 5,000 Btu/lb, as generated; and

(4) The hazardous waste fuel does not contain (and is not derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027.

(b) Mixing with nonhazardous fuels. If hazardous waste fuel is mixed with a nonhazardous fuel, the quantity of hazardous waste before such mixing is used to comply with paragraph (a).

(c) Multiple stacks. If an owner or operator burns hazardous waste in more than one onsite boiler or industrial furnace exempt under this section, the quantity limits provided by paragraph (a)(1) of this section are implemented according to the following equation:

$$\sum_{i=1}^{n} \frac{\text{Actual Quantity Burned}_{(i)}}{\text{Allowable Quantity Burned}_{(i)}} \leq 1.0$$

where:

n means the number of stacks;

Actual Quantity Burned means the waste quantity burned per month in device "i";

Allowable Quantity Burned, means the maximum allowable exempt quantity for stack "i" from the table in (a)(1) above.

Note: Hazardous wastes that are subject to the special requirements for small quantity generators under 261.5 of this chapter may be burned in an offsite device under the exemption provided by 266.108, but must be included in the quantity determination for the exemption.

(d) Notification requirements. The owner or operator of facilities qualifying for the small quantity burner exemption under this section must provide a one-time signed, written notice to the Department indicating the following:

(1) The combustion unit is operating as a small quantity burner of hazardous waste;

(2) The owner and operator are in compliance with the requirements of this section; and

(3) The maximum quantity of hazardous waste that the facility may burn per month as provided by 266.108(a)(1).

(e) Recordkeeping requirements. The owner or operator must maintain at the facility for at least three years sufficient records documenting compliance with the hazardous waste quantity, firing rate, and heating value limits of this section. At a minimum, these records must indicate the quantity of hazardous waste and other fuel burned in each unit per calendar month, and the heating value of the hazardous waste.

266.109 Low risk waste exemption

(a) Waiver of DRE standard. The DRE standard of 266.104(a) does not apply if the boiler or industrial furnace is operated in conformance with (a)(1) of this section and the owner or operator demonstrates by procedures prescribed in (a)(2) of this section that the burning will not result in unacceptable adverse health effects.

(1) The device shall be operated as follows:

(i) A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Department on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired; (12/93)

(ii) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb;

(iii) The hazardous waste is fired directly into the primary fuel flame zone of the combustion chamber; and

(iv) The device operates in conformance with the carbon monoxide controls

provided by 266.104(b)(1). Devices subject to the exemption provided by this section are not eligible for the alternative carbon monoxide controls provided by 266.104(c).

(2) Procedures to demonstrate that the hazardous waste burning will not pose unacceptable adverse public health effects are as follows:

(i) Identify and quantify those nonmetal compounds listed in Appendix VIII, part 261 of this chapter that could reasonably be expected to be present in the hazardous waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained;

(ii) Calculate reasonable, worst case emission rates for each constituent identified in paragraph (a)(2)(i) of this section by assuming the device achieves 99.9 percent destruction and removal efficiency. That is, assume that 0.1 percent of the mass weight of each constituent fed to the device is emitted.

(iii) For each constituent identified in paragraph (a)(2)(i) of this section, use emissions dispersion modeling to predict the maximum annual average ground level concentration of the constituent.

(A) Dispersion modeling shall be conducted using methods specified in 266.106(h).

(B) Owners and operators of facilities with more than one onsite stack from a boiler or industrial furnace that is exempt under this section must conduct dispersion modeling of emissions from all stacks exempt under this section to predict ambient levels prescribed by this paragraph.

(iv) Ground level concentrations of constituents predicted under paragraph (a)(2)(iii) of this section must not exceed the following levels:

(A) For the noncarcinogenic compounds listed in Appendix IV of this part, the levels established in Appendix IV;

(B) For the carcinogenic compounds listed in Appendix V of this part, the sum for all constituents of the ratios of the actual ground level concentration to the level established in Appendix V cannot exceed 1.0; and

(C) For constituents not listed in Appendix IV or V, 0.1 micrograms per cubic meter.

(b) Waiver of particulate matter standard. The particulate matter standard of 266.105 does not apply if:

(1) The DRE standard is waived under paragraph (a) of this section; and

(2) The owner or operator complies with the Tier I or adjusted Tier I metals feed rate screening limits provided by 266.106 (b) or (e).

266.110 Waiver of DRE trial burn for boilers

Boilers that operate under the special requirements of this section, and that do not burn hazardous waste containing (or derived from) EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, or F027, are considered to be in conformance with the DRE standard of 266.104(a), and a trial burn to demonstrate DRE is waived. When burning hazardous waste:

(a) A minimum of 50 percent of fuel fired to the device shall be fossil fuel, fuels derived from fossil fuel, tall oil, or, if approved by the Department on a case-by-case basis, other nonhazardous fuel with combustion characteristics comparable to fossil fuel. Such fuels are termed "primary fuel" for purposes of this section. (Tall oil is a fuel derived from vegetable and rosin fatty acids.) The 50 percent primary fuel firing rate shall be determined on a total heat or mass input basis, whichever results in the greater mass feed rate of primary fuel fired; (12/93)

(b) Boiler load shall not be less than 40 percent. Boiler load is the ratio at any time of the total heat input to the maximum design heat input;

(c) Primary fuels and hazardous waste fuels shall have a minimum as-fired heating value of 8,000 Btu/lb, and each material fired in a burner where hazardous waste is fired must have a heating value of at least 8,000 Btu/lb, as-fired;

(d) The device shall operate in conformance with the carbon monoxide standard provided by 266.104(b)(1). Boilers subject to the waiver of the DRE trial burn provided by this section are not eligible for the alternative carbon monoxide standard provided by 266.104(c);

(e) The boiler must be a watertube type boiler that does not feed fuel using a stoker or stoker type mechanism; and

(f) The hazardous waste shall be fired directly into the primary fuel flame zone of the combustion chamber with an air or steam atomization firing system, mechanical atomization system, or a rotary cup atomization system under the following conditions:

(1) Viscosity. The viscosity of the hazardous waste fuel as-fired shall not exceed 300 SSU;

(2) Particle size. When a high pressure air or steam atomizer, low pressure atomizer, or mechanical atomizer is used, 70% of the hazardous waste fuel must pass through a 200 mesh (74 micron) screen, and when a rotary cup atomizer is used, 70% of the hazardous waste must pass through a 100 mesh (150 micron) screen;

(3) Mechanical atomization systems. Fuel pressure within a mechanical atomization system and fuel flow rate shall be maintained within the design range taking into account the viscosity and volatility of the fuel;

(4) Rotary cup atomization systems. Fuel flow rate through a rotary cup atomization system

must be maintained within the design range taking into account the viscosity and volatility of the fuel.

266.111 Standards for direct transfer

(a) Applicability. The regulations in this section apply to owners and operators of boilers and industrial furnaces subject to 266.102 or 266.103 if hazardous waste is directly transferred from a transport vehicle to a boiler or industrial furnace without the use of a storage unit.

(b) Definitions.

(1) When used in this section, the following terms have the meanings given below:
Direct transfer equipment means any device (including but not limited to, such devices as piping, fittings, flanges, valves, and pumps) that is used to distribute, meter, or control the flow of hazardous waste between a container (i.e., transport vehicle) and a boiler or industrial furnace.
Container means any portable device in which hazardous waste is transported, stored, treated, or otherwise handled, and includes transport vehicles that are containers themselves (e.g., tank trucks, tanker-trailers, and rail tank cars), and containers placed on or in a transport vehicle.

(2) This section references several requirements provided in subparts I and J of parts 264 and 265. For purposes of this section, the term "tank systems" in those referenced requirements means direct transfer equipment as defined in paragraph (b)(1) of this section.

(c) General operating requirements.

(1) No direct transfer of a pumpable hazardous waste shall be conducted from an open-top container to a boiler or industrial furnace.

(2) Direct transfer equipment used for pumpable hazardous waste shall always be closed, except when necessary to add or remove the waste, and shall not be opened, handled, or stored in a manner that may cause any rupture or leak.

(3) The direct transfer of hazardous waste to a boiler or industrial furnace shall be conducted so that it does not:

(i) Generate extreme heat or pressure, fire, explosion, or violent reaction;

(ii) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

(iii) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(iv) Damage the structural integrity of the container or direct transfer equipment containing the waste;

(v) Adversely affect the capability of the boiler or industrial furnace to meet the standards provided by 266.104 through 266.107; or

(vi) Threaten human health or the environment.

(4) Hazardous waste shall not be placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.

(5) The owner or operator of the facility shall use appropriate controls and practices to prevent spills and overflows from the direct transfer equipment or its secondary containment systems. These include at a minimum:

(i) Spill prevention controls (e.g., check valves, dry disconnect couplings); and

(ii) Automatic waste feed cutoff to use if a leak or spill occurs from the direct transfer equipment.

(d) Areas where direct transfer vehicles (containers) are located. Applying the definition of container under this section, owners and operators must comply with the following requirements:

(1) The containment requirements of 264.175 of this chapter;

(2) The use and management requirements of subpart I, part 265 of this chapter, except for 265.170 and 265.174, and except that in lieu of the special requirements of 265.176 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see 260.11). The owner or operator must obtain and keep on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes; and (12/93)

(3) The closure requirements of 264.178 of this chapter.

(e) Direct transfer equipment. Direct transfer equipment must meet the following requirements:

(1) Secondary containment. Owners and operators shall comply with the secondary containment requirements of 265.193 of this chapter, except for paragraphs 265.193 (a), (d), (e), and (i) as follows:

(i) For all new direct transfer equipment, prior to their being put into service; and

(ii) For existing direct transfer equipment within 2 years after August 21, 1991.

(2) Requirements prior to meeting secondary containment requirements.

(i) For existing direct transfer equipment that does not have secondary containment, the owner or operator shall determine whether the

equipment is leaking or is unfit for use. The owner or operator shall obtain and keep on file at the facility a written assessment reviewed and certified by a qualified, registered professional engineer in accordance with 270.11(d) of this chapter that attests to the equipments integrity by August 21, 1992.

(ii) This assessment shall determine whether the direct transfer equipment is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be transferred to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment shall consider the following:

(A) Design standard(s), if available, according to which the direct transfer equipment was constructed;

(B) Hazardous characteristics of the waste(s) that have been or will be handled;

(C) Existing corrosion protection measures;

(D) Documented age of the equipment, if available, (otherwise, an estimate of the age); and

(E) Results of a leak test or other integrity examination such that the effects of temperature variations, vapor pockets, cracks, leaks, corrosion, and erosion are accounted for.

(iii) If, as a result of the assessment specified above, the direct transfer equipment is found to be leaking or unfit for use, the owner or operator shall comply with the requirements of 265.196 (a) and (b) of this chapter.

(3) Inspections and recordkeeping.

(i) The owner or operator must inspect at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the boiler or industrial furnace:

(A) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(B) The aboveground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (e.g., wet spots, dead vegetation); and

(C) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design.

(ii) The owner or operator must inspect cathodic protection systems, if used, to ensure that they are functioning properly according to the schedule provided by 265.195(b) of this chapter:

(iii) Records of inspections made under this paragraph shall be maintained in the operating record at the facility, and available for inspection for at least 3 years from the date of the inspection.

(4) Design and installation of new ancillary equipment. Owners and operators must comply with the requirements of 265.192 of this chapter.

(5) Response to leaks or spills. Owners and operators must comply with the requirements of 265.196 of this chapter.

(6) Closure. Owners and operators must comply with the requirements of 265.197 of this chapter, except for 265.197 (c)(2) through (c)(4).

266.112 Regulation of residues

A residue derived from the burning or processing of hazardous waste in a boiler or industrial furnace is not excluded from the definition of a hazardous waste under 261.4(b) (4), (7), or (8) unless the device and the owner or operator meet the following requirements:

(a) The device meets the following criteria:

(1) Boilers. Boilers must burn at least 50% coal on a total heat input or mass input basis, whichever results in the greater mass feed rate of coal; (12/93)

(2) Ore or mineral furnaces. Industrial furnaces subject to 261.4(b)(7) must process at least 50% by weight normal, nonhazardous raw materials;

(3) Cement kilns. Cement kilns must process at least 50% by weight normal cement-production raw materials;

(b) The owner or operator demonstrates that the hazardous waste does not significantly affect the residue by demonstrating conformance with either of the following criteria:

(1) Comparison of waste-derived residue with normal residue. The waste-derived residue must not contain Appendix VIII, part 261 constituents (toxic constituents) that could reasonably be attributable to the hazardous waste at concentrations significantly higher than in residue generated without burning or processing of hazardous waste, using the following procedure. Toxic compounds that could reasonably be attributable to burning or processing the hazardous waste (constituents of concern) include toxic constituents in the hazardous waste, and the organic compounds listed in Appendix VIII of this part that may be generated as products of incomplete combustion. Sampling and analyses shall be in conformance with procedures prescribed in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, incorporated by reference in 260.11(a) of this chapter. For polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed to determine specific congeners and homologues, and the results converted to 2,3,7,8-

TCDD equivalent values using the procedure specified in section 4.0 of Appendix IX. (6/03)

(i) Normal residue. Concentrations of toxic constituents of concern in normal residue shall be determined based on analyses of a minimum of 10 samples representing a minimum of 10 days of operation. Composite samples may be used to develop a sample for analysis provided that the compositing period does not exceed 24 hours. The upper tolerance limit (at 95% confidence with a 95% proportion of the sample distribution) of the concentration in the normal residue shall be considered the statistically-derived concentration in the normal residue. If changes in raw materials or fuels reduce the statistically-derived concentrations of the toxic constituents of concern in the normal residue, the statistically-derived concentrations must be revised or statistically-derived concentrations of toxic constituents in normal residue must be established for a new mode of operation with the new raw material or fuel. To determine the upper tolerance limit in the normal residue, the owner or operator shall use statistical procedures prescribed in "Statistical Methodology for Bevill Residue Determinations" in Appendix IX of this part. (12/93)

(ii) Waste-derived residue. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the concentrations established for the normal residue under paragraph (b)(1)(i) of this section. If so, hazardous waste burning has significantly affected the residue and the residue shall not be excluded from the definition of a hazardous waste. Concentrations of toxic constituents of concern in waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be the arithmetic mean of the concentrations in the samples. No results may be disregarded; or (12/93)

(2) Comparison of waste-derived residue concentrations with health-based limits.

(i) Nonmetal constituents. The concentration of each nonmetal toxic constituent of concern (specified in paragraph (b)(1) of this section) in the waste-derived residue must not exceed the health-based level specified in Appendix VII of this part, or the level of detection (using analytical procedures prescribed in SW-846), whichever is higher. If a health-based limit for a constituent of concern is not listed in Appendix VII of this part, then a limit of 0.002 micrograms per kilogram or the level of detection (using analytical procedures contained in SW-846, or other appropriate methods), whichever is higher, must be used. The levels specified in Appendix VII of this part (and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of Appendix VII of this paragraph) are administratively stayed under the condition, for those constituents specified in paragraph (b)(1) of this section, that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in 268.43 for F039 nonwastewaters. In complying with those alternative levels, if an owner or operator is unable to detect a constituent despite documenting use of best good-faith efforts as defined by applicable Department guidance or standards, the owner or operator is deemed to be in compliance for that constituent. Until new guidance or standards are developed, the owner or operator may demonstrate such good-faith efforts by achieving a detection limit for the constituent that does not exceed an order of magnitude above the level provided by 268.43 for F039 nonwastewaters. In complying with the 268.43 F039 nonwastewater levels for polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-furans, analyses must be performed for total hexachlorodibenzo-p-dioxins, total hexachlorodibenzofurans, total pentachlorodibenzo-p-dioxins, total pentachlorodibenzofurans, total tetrachlorodibenzo-p-dioxins, and total tetrachlorodibenzofurans.

Note to this paragraph: The administrative stay, under the condition that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in 268.43 for F039 nonwastewaters, remains in effect until further administrative action is taken and notice is published in the Federal Register . (12/93; 12/94, 8/00, 6/03)

(ii) Metal constituents. The concentration of metals in an extract obtained using the Toxicity Characteristic Leaching Procedure of 261.24 of this chapter must not exceed the levels specified in Appendix VII of this part; and

(iii) Sampling and analysis. Waste-derived residue shall be sampled and analyzed as often as necessary to determine whether the residue generated during each 24-hour period has concentrations of toxic constituents that are higher than the health-based levels. Concentrations of toxic constituents of concern in the waste-derived residue shall be determined based on analysis of one or more samples obtained over a 24-hour period. Multiple samples may be analyzed, and multiple samples may be taken to form a composite sample for analysis provided that the sampling period does not exceed 24

hours. If more than one sample is analyzed to characterize waste-derived residues generated over a 24-hour period, the concentration of each toxic constituent shall be arithmetic mean of the concentrations in the samples. No results may be disregarded; and (12/93)

(c) Records sufficient to document compliance with the provisions of this section shall be retained until closure of the boiler or industrial furnace unit. At a minimum, the following shall be recorded: (12/93)

(1) Levels of constituents in Appendix VIII, part 261, that are present in waste-derived residues;

(2) If the waste-derived residue is compared with normal residue under paragraph (b)(1) of this section:

(i) The levels of constituents in Appendix VIII, part 261, that are present in normal residues; and

(ii) Data and information, including analyses of samples as necessary, obtained to determine if changes in raw materials or fuels would reduce the concentration of toxic constituents of concern in the normal residue.

Subpart I - L [Reserved]

Subpart M - Military Munitions

266.200 Applicability

(a) The regulations in this subpart identify when military munitions become a solid waste, and, if these wastes are also hazardous under this subpart or 261, the management standards that apply to these wastes. (9/98)

(b) Unless otherwise specified in this subpart, all applicable requirements in 260 through 270 apply to waste military munitions.

266.201 Definitions

In addition to the definitions in R.61-79.260.10, the following definitions apply to this subpart: Active range means a military range that is currently in service and is being regularly used for range activities.

Chemical agents and munitions are defined as in 50 U.S.C. section 1521(j)(1).

Explosives or *munitions emergency response specialist* is as defined in 260.10.

Explosives or *munitions emergency* is as defined in 260.10.

Explosives or *munitions emergency response* is as defined in 260.10.

Inactive range means a military range that is not currently being used, but that is still under military control and considered by the military to be a potential range area, and that has not been put to a new use that is incompatible with range activities.

Military means the Department of Defense (DOD), the Armed Services, Coast Guard, National Guard, Department of Energy (DOE), or other parties under contract or acting as an agent for the foregoing, who handle military munitions.

Military munitions is as defined in 260.10.

Military range means designated land and water areas set aside, managed, and used to conduct research on, develop, test, and evaluate military munitions and explosives, other ordnance, or weapon systems, or to train military personnel in their use and handling. Ranges include firing lines and positions, maneuver areas, firing lanes, test pads, detonation pads, impact areas, and buffer zones with restricted access and exclusionary areas.

Unexploded ordnance (UXO) means military munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design, or any other cause.

266.202 Definition of solid waste

(a) A military munition is not a solid waste when:

(1) Used for its intended purpose, including:

(i) Use in training military personnel or explosives and munitions emergency response specialists (including training in proper destruction of unused propellant or other munitions); or

(ii) Use in research, development, testing, and evaluation of military munitions, weapons, or weapon systems; or

(iii) Recovery, collection, and on-range destruction of unexploded ordnance and munitions fragments during range clearance activities at active or inactive ranges. However, "use for intended purpose" does not include the on-range disposal or burial of unexploded ordnance and contaminants when the burial is not a result of product use.

(2) An unused munition, or component thereof, is being repaired, reused, recycled, reclaimed, disassembled, reconfigured, or otherwise subjected to materials recovery activities, unless such activities involve use constituting disposal as defined in 261.2(c)(1), or burning for energy recovery as defined in 261.2(c)(2).

(b) An unused military munition is a solid waste when any of the following occurs:

(1) The munition is abandoned by being disposed of, burned, detonated (except during

intended use as specified in paragraph (a) of this section), incinerated, or treated prior to disposal; or

(2) The munition is removed from storage in a military magazine or other storage area for the purpose of being disposed of, burned, or incinerated, or treated prior to disposal, or

(3) The munition is deteriorated or damaged (e.g., the integrity of the munition is compromised by cracks, leaks, or other damage) to the point that it cannot be put into serviceable condition, and cannot reasonably be recycled or used for other purposes; or

(4) The munition has been declared a solid waste by an authorized military official.

(c) A used or fired military munition is a solid waste:

(1) When transported off range or from the site of use, where the site of use is not a range, for the purposes of storage, reclamation, treatment, disposal, or treatment prior to disposal; or

(2) If recovered, collected, and then disposed of by burial, or landfilling either on or off a range.

(d) For purposes of RCRA section 1004(27), a used or fired military munition is a solid waste, and, therefore, is potentially subject to RCRA corrective action authorities under sections 3004(u) and (v), and 3008(h), or imminent and substantial endangerment authorities under section 7003, if the munition lands off-range and is not promptly rendered safe and/or retrieved. Any imminent and substantial threats associated with any remaining material must be addressed. If remedial action is infeasible, the operator of the range must maintain a record of the event for as long as any threat remains. The record must include the type of munition and its location (to the extent the location is known).

266.203 Standards applicable to the transportation of solid waste military munitions

(a) Criteria for hazardous waste regulation of waste non-chemical military munitions in transportation.

(1) Waste military munitions that are being transported and that exhibit a hazardous waste characteristic or are listed as hazardous waste under 261, are listed or identified as a hazardous waste (and thus are subject to regulation under 260 through 270), unless all the following conditions are met:

(i) The waste military munitions are not chemical agents or chemical munitions;

(ii) The waste military munitions must be transported in accordance with the Department of Defense shipping controls applicable to the transport of military munitions;

(iii) The waste military munitions must be transported from a military owned or operated installation to a military owned or operated treatment, storage, or disposal facility; and

(iv) The transporter of the waste must provide oral notice to the Director within 24 hours from the time the transporter becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (a)(1) of this section that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the transporter becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (a)(1) of this section.

(2) If any waste military munitions shipped under paragraph (a)(1) of this section are not received by the receiving facility within 45 days of the day the waste was shipped, the owner or operator of the receiving facility must report this non-receipt to the Director within 5 days.

(3) The exemption in paragraph (a)(1) of this section from regulation as hazardous waste shall apply only to the transportation of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to storage, treatment or disposal.

(4) The conditional exemption in paragraph (a)(1) of this section applies only so long as all of the conditions in paragraph (a)(1) of this section are met.

(b) Reinstatement of exemption. If any waste military munition loses its exemption under paragraph (a)(1) of this section, an application may be filed with the Director for reinstatement of the exemption from hazardous waste transportation regulation with respect to such munition as soon as the munition is returned to compliance with the conditions of paragraph (a)(1) of this section. If the Director finds that reinstatement of the exemption is appropriate based on factors such as the transporter's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the Director may reinstate the exemption under paragraph (a)(1) of this section. If the Director does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the Director may terminate a conditional exemption reinstated by default in the preceding sentence if the Director finds that reinstatement is inappropriate based on factors such as the transporter's failure to provide a satisfactory explanation of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the exemption under paragraph (a)(1) of this section, the Director may specify additional conditions as are necessary to

ensure and document proper transportation to protect human health and the environment.

(c) Amendments to DOD shipping controls. The Department of Defense shipping controls applicable to the transport of military munitions referenced in paragraph (a)(1)(ii) of this section are Government Bill of Lading (GBL) (GSA Standard Form 1109), requisition tracking form DD Form 1348, the Signature and Talley Record (DD Form 1907), Special Instructions for Motor Vehicle Drivers (DD Form 836), and the Motor Vehicle Inspection Report (DD Form 626) in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the Department of Defense shipping controls shall become effective for purposes of paragraph (a)(1) of this section on the date the Department of Defense publishes notice in the Federal Register that the shipping controls referenced in paragraph (a)(1)(ii) of this section have been amended.

266.204 Standards applicable to emergency responses

Explosives and munitions emergencies involving military munitions or explosives are subject to 262.10(i), 263.10(e), 264.1(g)(8), 265.1(c)(11), and 270.1(c)(3), or alternatively to 270.61.

266.205 Standards applicable to the storage of solid waste military munitions

(a) Criteria for hazardous waste regulation of waste non-chemical military munitions in storage.

(1) Waste military munitions in storage that exhibit a hazardous waste characteristic or are listed as hazardous waste under 261, are listed or identified as a hazardous waste (and thus are subject to regulation under 260 through 279), unless all the following conditions are met:

(i) The waste military munitions are not chemical agents or chemical munitions.

(ii) The waste military munitions must be subject to the jurisdiction of the Department of Defense Explosives Safety Board (DDESB).

(iii) The waste military munitions must be stored in accordance with the DDESB storage standards applicable to waste military munitions.

(iv) Within 90 days of August 12, 1997 or within 90 days of when a storage unit is first used to store waste military munitions, whichever is later, the owner or operator must notify the Director of the location of any waste storage unit used to store waste military munitions for which the conditional exemption in paragraph (a)(1) is claimed.

(v) The owner or operator must provide oral notice to the Director within 24 hours from the time the owner or operator becomes aware of any loss or theft of the waste military munitions, or any failure to meet a condition of paragraph (a)(1) that may endanger health or the environment. In addition, a written submission describing the circumstances shall be provided within 5 days from the time the owner or operator becomes aware of any loss or theft of the waste military munitions or any failure to meet a condition of paragraph (a)(1) of this section.

(vi) The owner or operator must inventory the waste military munitions at least annually, must inspect the waste military munitions at least quarterly for compliance with the conditions of paragraph (a)(1) of this section, and must maintain records of the findings of these inventories and inspections for at least three years.

(vii) Access to the stored waste military munitions must be limited to appropriately trained and authorized personnel.

(2) The conditional exemption in paragraph (a)(1) of this section from regulation as hazardous waste shall apply only to the storage of non-chemical waste military munitions. It does not affect the regulatory status of waste military munitions as hazardous wastes with regard to transportation, treatment or disposal.

(3) The conditional exemption in paragraph (a)(1) of this section applies only so long as all of the conditions in paragraph (a)(1) of this section are met.

(b) Notice of termination of waste storage. The owner or operator must notify the Director when a storage unit identified in paragraph (a)(1)(iv) of this section will no longer be used to store waste military munitions.

(c) Reinstatement of conditional exemption. If any waste military munition loses its conditional exemption under paragraph (a)(1) of this section, an application may be filed with the Director for reinstatement of the conditional exemption from hazardous waste storage regulation with respect to such munition as soon as the munition is returned to compliance with the conditions of paragraph (a)(1) of this section. If the Director finds that reinstatement of the conditional exemption is appropriate based on factors such as the owner's or operator's provision of a satisfactory explanation of the circumstances of the violation, or a demonstration that the violations are not likely to recur, the Director may reinstate the conditional exemption under paragraph (a)(1) of this section. If the Director does not take action on the reinstatement application within 60 days after receipt of the application, then reinstatement shall be deemed granted, retroactive to the date of the application. However, the Director may terminate a conditional exemption reinstated by default in the preceding sentence if he/she finds that reinstatement is inappropriate based on factors such as the owner's or operator's failure to provide a satisfactory explanation

of the circumstances of the violation, or failure to demonstrate that the violations are not likely to recur. In reinstating the conditional exemption under paragraph (a)(1) of this section, the Director may specify additional conditions as are necessary to ensure and document proper storage to protect human health and the environment.

(d) Waste chemical munitions.

(1) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under 261, are listed or identified as a hazardous waste and shall be subject to the applicable regulatory requirements of RCRA subtitle C.

(2) Waste military munitions that are chemical agents or chemical munitions and that exhibit a hazardous waste characteristic or are listed as hazardous waste under 261, are not subject to the storage prohibition in RCRA section 3004(j), codified at 268.50.

(e) Amendments to DDESB storage standards. The DDESB storage standards applicable to waste military munitions, referenced in paragraph (a)(1)(iii) of this section, are DOD 6055.9-STD (ADOD Ammunition and Explosive Safety Standards, in effect on November 8, 1995, except as provided in the following sentence. Any amendments to the DDESB storage standards shall become effective for purposes of paragraph (a)(1) of this section on the date the Department of Defense publishes notice in the Federal Register that the DDESB standards referenced in paragraph (a)(1) of this section have been amended.

266.206 Standards applicable to the treatment and disposal of waste military munitions

The treatment and disposal of hazardous waste military munitions are subject to the applicable permitting, procedural, and technical standards in 260 through 270.

266 Subpart N - Conditional Exemption for Low-Level Mixed Waste Storage, Treatment, Transportation and Disposal

Terms

266.210 What definitions apply to this subpart?

This subpart uses the following special definitions:

Agreement State means a state that has entered into an agreement with the NRC under subsection 274b of the Atomic Energy Act of 1954, as amended (68 Stat. 919), to assume responsibility for regulating within its borders byproduct, source, or special nuclear material in quantities not sufficient to form a critical mass.

Certified delivery means certified mail with return receipt requested, or equivalent courier service, or other means, that provides the sender with a receipt confirming delivery. (6/02)

Exempted waste means a waste that meets the eligibility criteria in 266.225 and meets all of the conditions in 266.230, or meets the eligibility criteria in 266.310. Such waste is conditionally exempted from the regulatory definition of hazardous waste described in 261.3.

License means a license issued by the Nuclear Regulatory Commission, or NRC Agreement State, to users that manage radionuclides regulated by NRC, or NRC Agreement States, under authority of the Atomic Energy Act of 1954, as amended.

Low-Level Mixed Waste (LLMW) is a waste that contains both low-level radioactive waste and RCRA hazardous waste.

Low-Level Radioactive Waste (LLW) is a radioactive waste which contains source, special nuclear, or byproduct material, and which is not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act. (See also NRC definition of "waste" at 10 CFR 61.2)

Mixed Waste means a waste that contains both RCRA hazardous waste and source, special nuclear, or byproduct material subject to the Atomic Energy Act of 1954, as amended.

Naturally Occurring and/or Accelerator-produced Radioactive Material (NARM) means radioactive materials that: (1) Are naturally occurring and are not source, special nuclear, or byproduct materials (as defined by the AEA) or (2) Are produced by an accelerator. NARM is regulated by the States under State law, or by DOE (as authorized by the AEA) under DOE orders.

NRC means the U. S. Nuclear Regulatory Commission.

We or us within this subpart, means the Director of the Division of Waste Management

You means a generator of low-level mixed waste or eligible NARM.

Storage and Treatment Conditional Exemption and Eligibility

266.220 What does a storage and treatment conditional exemption do?

The storage and treatment conditional exemption exempts your low-level mixed waste from the regulatory definition of hazardous waste in 261.3 if your waste meets the eligibility criteria in 266.225 and you meet the conditions in 266.230.

266.225 What wastes are eligible for the storage and treatment conditional exemption?

Low-level mixed waste (LLMW), defined in 266.210, is eligible for this conditional exemption if it is

generated and managed by you under a single NRC or NRC Agreement State license. (Mixed waste generated at a facility with a different license number and shipped to your facility for storage and treatment requires a permit and is ineligible for this exemption. In addition, NARM waste is ineligible for this exemption.)

266.230 What conditions must you meet for your LLMW to qualify for and maintain a storage and treatment exemption?

(a) For your LLMW to qualify for the exemption you must notify the Director of the Division of Waste Management in writing by certified delivery that you are claiming a conditional exemption for the LLMW stored on your facility. The dated notification must include your name, address, RCRA identification number, NRC or NRC Agreement State license number, the waste code(s) and storage unit(s) for which you are seeking an exemption, and a statement that you meet the conditions of this subpart. Your notification must be signed by your authorized representative who certifies that the information in the notification is true, accurate, and complete. You must notify the Director of your claim either within 90 days of the effective date of this rule in your State, or within 90 days of when a storage unit is first used to store conditionally exempt LLMW.

(b) To qualify for and maintain an exemption for your LLMW you must:

(1) Store your LLMW waste in tanks or containers in compliance with the requirements of your license that apply to the proper storage of low-level radioactive waste (not including those license requirements that relate solely to recordkeeping);

(2) Store your LLMW in tanks or containers in compliance with chemical compatibility requirements of a tank or container in 264.177 or 264.199 or 265.177 or 265.199;

(3) Certify that facility personnel who manage stored conditionally exempt LLMW are trained in a manner that ensures that the conditionally exempt waste is safely managed and includes training in chemical waste management and hazardous materials incidents response that meets the personnel training standards found in 265.16(a)(3);

(4) Conduct an inventory of your stored conditionally exempt LLMW at least annually and inspect it at least quarterly for compliance with subpart N of this part; and

(5) Maintain an accurate emergency plan and provide it to all local authorities who may have to respond to a fire, explosion, or release of hazardous waste or hazardous constituents. Your plan must describe emergency response arrangements with local authorities; describe evacuation plans; list the names, addresses, and telephone numbers of all facility personnel qualified to work with local authorities as emergency coordinators; and list emergency equipment.

Treatment

266.235 What waste treatment does the storage and treatment conditional exemption allow?

You may treat your low-level mixed waste at your facility within a tank or container in accordance with the terms of your NRC or NRC Agreement State license. Treatment that cannot be done in a tank or container without a RCRA permit (such as incineration) is not allowed under this exemption.

Loss of Conditional Exemption

266.240 How could you lose the conditional exemption for your LLMW and what action must you take?

(a) Your LLMW will automatically lose the storage and treatment conditional exemption if you fail to meet any of the conditions specified in 266.230. When your LLMW loses the exemption, you must immediately manage that waste which failed the condition as RCRA hazardous waste, and the storage unit storing the LLMW immediately becomes subject to RCRA hazardous waste container and/or tank storage requirements.

(1) If you fail to meet any of the conditions specified in 266.230 you must report to the Director of the Division of Waste Management and the oversight agency in the NRC Agreement State, in writing by certified delivery within 30 days of learning of the failure. Your report must be signed by your authorized representative certifying that the information provided is true, accurate, and complete. This report must include:

(i) The specific condition(s) you failed to meet;

(ii) A description of the LLMW (including the waste name, hazardous waste codes and quantity) and storage location at the facility; and

(iii) The date(s) on which you failed to meet the condition(s).

(2) If the failure to meet any of the conditions may endanger human health or the environment, you must also immediately notify the Director of the Division of Waste Management orally within 24 hours and follow up with a written notification within five days. Failures that may endanger human health or the environment include, but are not limited to, discharge of a CERCLA reportable quantity or other leaking, burning or exploding tanks or containers, or detection of radionuclides above background or hazardous constituents in the leachate collection system of a

storage area. If the failure may endanger human health or the environment, you must follow the provisions of your emergency plan.

(b) We may terminate your conditional exemption for your LLMW, or require you to meet additional conditions to claim a conditional exemption, for serious or repeated noncompliance with any requirement(s) of subpart N of this part.

266.245 If you lose the storage and treatment conditional exemption for your LLMW, can the exemption be reclaimed?

(a) You may reclaim the storage exemption for your LLMW if:

(1) You again meet the conditions specified in 266.230; and

(2) You send the Director of the Division of Waste Management a notice by certified delivery that you are reclaiming the exemption for your LLMW. Your notice must be signed by your authorized representative certifying that the information contained in your notice is true, complete, and accurate. In your notice you must do the following:

(i) Explain the circumstances of each failure.

(ii) Certify that you have corrected each failure that caused you to lose the exemption for your LLMW and that you again meet all the conditions as of the date you specify.

(iii) Describe plans that you have implemented, listing specific steps you have taken, to ensure the conditions will be met in the future.

(iv) Include any other information you want us to consider when we review your notice reclaiming the exemption.

(b) We may terminate a reclaimed conditional exemption if we find that your claim is inappropriate based on factors including, but not limited to, the following: you have failed to correct the problem; you explained the circumstances of the failure unsatisfactorily; or you failed to implement a plan with steps to prevent another failure to meet the conditions of 266.230. In reviewing a reclaimed conditional exemption under this section, we may add conditions to the exemption to ensure that waste management during storage and treatment of the LLMW will protect human health and the environment.

Recordkeeping

266.250 What records must you keep at your facility and for how long?

(a) In addition to those records required by your NRC or NRC Agreement State license, you must keep records as follows:

(1) Your initial notification records, return receipts, reports to us of failure(s) to meet the exemption conditions, and all records supporting any reclaim of an exemption;

(2) Records of your LLMW annual inventories, and quarterly inspections;

(3) Your certification that facility personnel who manage stored mixed waste are trained in safe management of LLMW including training in chemical waste management and hazardous materials incidents response; and

(4) Your emergency plan as specified in 266.230(b).

(b) You must maintain records concerning notification, personnel trained, and your emergency plan for as long as you claim this exemption and for three years thereafter, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC Agreement State regulations), whichever is longer. You must maintain records concerning your annual inventory and quarterly inspections for three years after the waste is sent for disposal, or in accordance with NRC regulations under 10 CFR part 20 (or equivalent NRC Agreement State regulations), whichever is longer.

Reentry Into RCRA

266.255 When is your LLMW no longer eligible for the storage and treatment conditional exemption?

(a) When your LLMW has met the requirements of your NRC or NRC Agreement State license for decay-in-storage and can be disposed of as non-radioactive waste, then the conditional exemption for storage no longer applies. On that date your waste is subject to hazardous waste regulation under the relevant sections of parts 260 through 271, and the time period for accumulation of a hazardous waste as specified in 262.34 begins.

(b) When your conditionally exempt LLMW, which has been generated and stored under a single NRC or NRC Agreement State license number, is removed from storage, it is no longer eligible for the storage and treatment exemption.

Storage Unit Closure

266.260 Do closure requirements apply to units that stored LLMW prior to the effective date of Subpart N?

Interim status and permitted storage units that have been used to store only LLMW prior to the effective date of Subpart N and, after that date, store only LLMW which becomes exempt under this Subpart N, are not subject to the closure requirements of parts 264 and 265. Storage units (or portions of units) that have been used to store both LLMW and non-mixed

hazardous waste prior to the effective date of Subpart N or are used to store both after that date remain subject to closure requirements with respect to the non-mixed hazardous waste.

266.305 - 266.360 [Reserved]

Appendix I - Tier I and Tier II Feed Rate and Emissions Screening Limits for Metals

Table I-A - Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain [Values for **urban** areas] (5/93)

Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	6.0E+01	1.0E+04	1.8E+01	6.0E+01	6.0E+02	6.0E+01
6	6.8E+01	1.1E+04	2.0E+01	6.8E+01	6.8E+02	6.8E+01
8	7.6E+01	1.3E+04	2.3E+01	7.6E+01	7.6E+02	7.6E+01
10	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
12	9.6E+01	1.7E+04	3.0E+01	9.6E+01	9.6E+02	9.6E+01
14	1.1E+02	1.8E+04	3.4E+01	1.1E+02	1.1E+03	1.1E+02
16	1.3E+02	2.1E+04	3.6E+01	1.3E+02	1.3E+03	1.3E+02
18	1.4E+02	2.4E+04	4.3E+01	1.4E+02	1.4E+03	1.4E+02
20	1.6E+02	2.7E+04	4.6E+01	1.6E+02	1.6E+03	1.6E+02
22	1.8E+02	3.0E+04	5.4E+01	1.8E+02	1.8E+03	1.8E+02
24	2.0E+02	3.4E+04	6.0E+01	2.0E+02	2.0E+03	2.0E+02
26	2.3E+02	3.9E+04	6.8E+01	2.3E+02	2.3E+03	2.3E+02
28	2.6E+02	4.3E+04	7.8E+01	2.6E+02	2.6E+03	2.6E+02
30	3.0E+02	5.0E+04	9.0E+01	3.0E+02	3.0E+03	3.0E+02
35	4.0E+02	6.6E+04	1.1E+02	4.0E+02	4.0E+03	4.0E+02
40	4.6E+02	7.8E+04	1.4E+02	4.6E+02	4.6E+03	4.6E+02
45	6.0E+02	1.0E+05	1.8E+02	6.0E+02	6.0E+03	6.0E+02
50	7.8E+02	1.3E+05	2.3E+02	7.8E+02	7.8E+03	7.8E+02
55	9.6E+02	1.7E+05	3.0E+02	9.6E+02	9.6E+03	9.6E+02
60	1.2E+03	2.0E+05	3.6E+02	1.2E+03	1.2E+04	1.2E+03
65	1.5E+03	2.5E+05	4.3E+02	1.5E+03	1.5E+04	1.5E+03
70	1.7E+03	2.8E+05	5.0E+02	1.7E+03	1.7E+04	1.7E+03
75	1.9E+03	3.2E+05	5.8E+02	1.9E+03	1.9E+04	1.9E+03
80	2.2E+03	3.6E+05	6.4E+02	2.2E+03	2.2E+04	2.2E+03
85	2.5E+03	4.0E+05	7.6E+02	2.5E+03	2.5E+04	2.5E+03
90	2.8E+03	4.6E+05	8.2E+02	2.8E+03	2.8E+04	2.8E+03
95	3.2E+03	5.4E+05	9.6E+02	3.2E+03	3.2E+04	3.2E+03
100	3.6E+03	6.0E+05	1.1E+03	3.6E+03	3.6E+04	3.6E+03
105	4.0E+03	6.8E+05	1.2E+03	4.0E+03	4.0E+04	4.0E+03
110	4.6E+03	7.8E+05	1.4E+03	4.6E+03	4.6E+04	4.6E+03
115	5.4E+03	8.6E+05	1.6E+03	5.4E+03	5.4E+04	5.4E+03
120	6.0E+03	1.0E+06	1.8E+03	6.0E+03	6.0E+04	6.0E+03

Table I-B -Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain [Values for **rural** areas]

Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	3.1E+01	5.2E+03	9.4E+00	3.1E+01	3.1E+02	3.1E+01
6	3.6E+01	6.0E+03	1.1E+01	3.6E+01	3.6E+02	3.6E+01
8	4.0E+01	6.8E+03	1.2E+01	4.0E+01	4.0E+02	4.0E+01
10	4.6E+01	7.8E+03	1.4E+01	4.6E+01	4.6E+02	4.6E+01
12	5.8E+01	9.6E+03	1.7E+01	5.8E+01	5.8E+02	5.8E+01
14	6.8E+01	1.1E+04	2.1E+01	6.8E+01	6.8E+02	6.8E+01
16	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
18	1.1E+02	1.8E+04	3.2E+01	1.1E+02	1.1E+03	1.1E+02
20	1.3E+02	2.2E+04	4.0E+01	1.3E+02	1.3E+03	1.3E+02
22	1.7E+02	2.8E+04	5.0E+01	1.7E+02	1.7E+03	1.7E+02
24	2.2E+02	3.6E+04	6.4E+01	2.2E+02	2.2E+03	2.2E+02

Table I-B -Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Noncomplex Terrain [Values for **rural** areas]

Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
26	2.8E+02	4.6E+04	8.2E+01	2.8E+02	2.8E+03	2.8E+02
28	3.5E+02	5.8E+04	1.0E+02	3.5E+02	3.5E+03	3.5E+02
30	4.3E+02	7.6E+04	1.3E+02	4.3E+02	4.3E+03	4.3E+02
35	7.2E+02	1.2E+05	2.1E+02	7.2E+02	7.2E+03	7.2E+02
40	1.1E+03	1.8E+05	3.2E+02	1.1E+03	1.1E+04	1.1E+03
45	1.5E+03	2.5E+05	4.6E+02	1.5E+03	1.5E+04	1.5E+03
50	2.0E+03	3.3E+05	6.0E+02	2.0E+03	2.0E+04	2.0E+03
55	2.6E+03	4.4E+05	7.8E+02	2.6E+03	2.6E+04	2.6E+03
60	3.4E+03	5.8E+05	1.0E+03	3.4E+03	3.4E+04	3.4E+03
65	4.6E+03	7.6E+05	1.4E+03	4.6E+03	4.6E+04	4.6E+03
70	5.4E+03	9.0E+05	1.6E+03	5.4E+03	5.4E+04	5.4E+03
75	6.4E+03	1.1E+06	1.9E+03	6.4E+03	6.4E+04	6.4E+03
80	7.6E+03	1.3E+06	2.3E+03	7.6E+03	7.6E+04	7.6E+03
85	9.4E+03	1.5E+06	2.8E+03	9.4E+03	9.4E+04	9.4E+03
90	1.1E+04	1.8E+06	3.3E+03	1.1E+04	1.1E+05	1.1E+04
95	1.3E+04	2.2E+06	3.9E+03	1.3E+04	1.3E+05	1.3E+04
100	1.5E+04	2.6E+06	4.6E+03	1.5E+04	1.5E+05	1.5E+04
105	1.8E+04	3.0E+06	5.4E+03	1.8E+04	1.8E+05	1.8E+04
110	2.2E+04	3.6E+06	6.6E+03	2.2E+04	2.2E+05	2.2E+04
115	2.6E+04	4.4E+06	7.8E+03	2.6E+04	2.6E+05	2.6E+04
120	3.1E+04	5.0E+06	9.2E+03	3.1E+04	3.1E+05	3.1E+04

Table I-C -Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Complex Terrain Values for urban and rural areas

Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
4	1.4E+01	2.4E+03	4.3E+00	1.4E+01	1.4E+02	1.4E+01
6	2.1E+01	3.5E+03	6.2E+00	2.1E+01	2.1E+02	2.1E+01
8	3.0E+01	5.0E+03	9.2E+00	3.0E+01	3.0E+02	3.0E+01
10	4.3E+01	7.6E+03	1.3E+01	4.3E+01	4.3E+02	4.3E+01
12	5.4E+01	9.0E+03	1.7E+01	5.4E+01	5.4E+02	5.4E+01
14	6.8E+01	1.1E+04	2.0E+01	6.8E+01	6.8E+02	6.8E+01
16	7.8E+01	1.3E+04	2.4E+01	7.8E+01	7.8E+02	7.8E+01
18	8.6E+01	1.4E+04	2.6E+01	8.6E+01	8.6E+02	8.6E+01
20	9.6E+01	1.6E+04	2.9E+01	9.6E+01	9.6E+02	9.6E+01
22	1.0E+02	1.8E+04	3.2E+01	1.0E+02	1.0E+03	1.0E+02
24	1.2E+02	1.9E+04	3.5E+01	1.2E+02	1.2E+03	1.2E+02
26	1.3E+02	2.2E+04	3.6E+01	1.3E+02	1.3E+03	1.3E+02
28	1.4E+02	2.4E+04	4.3E+01	1.4E+02	1.4E+03	1.4E+02
30	1.6E+02	2.7E+04	4.6E+01	1.6E+02	1.6E+03	1.6E+02
35	2.0E+02	3.3E+04	5.8E+01	2.0E+02	2.0E+03	2.0E+02
40	2.4E+02	4.0E+04	7.2E+01	2.4E+02	2.4E+03	2.4E+02
45	3.0E+02	5.0E+04	9.0E+01	3.0E+02	3.0E+03	3.0E+02
50	3.6E+02	6.0E+04	1.1E+02	3.6E+02	3.6E+03	3.6E+02
55	4.6E+02	7.6E+04	1.4E+02	4.6E+02	4.6E+03	4.6E+02
60	5.8E+02	9.4E+04	1.7E+02	5.8E+02	5.8E+03	5.8E+02
65	6.8E+02	1.1E+05	2.1E+02	6.8E+02	6.8E+03	6.8E+02
70	7.8E+02	1.3E+05	2.4E+02	7.8E+02	7.8E+03	7.8E+02
75	8.6E+02	1.4E+05	2.6E+02	8.6E+02	8.6E+03	8.6E+02
80	9.6E+02	1.6E+05	2.9E+02	9.6E+02	9.6E+03	9.6E+02
85	1.1E+03	1.8E+05	3.3E+02	1.1E+03	1.1E+04	1.1E+03
90	1.2E+03	2.0E+05	3.6E+02	1.2E+03	1.2E+04	1.2E+03
95	1.4E+03	2.3E+05	4.0E+02	1.4E+03	1.4E+04	1.4E+03
100	1.5E+03	2.6E+05	4.6E+02	1.5E+03	1.5E+04	1.5E+03
105	1.7E+03	2.8E+05	5.0E+02	1.7E+03	1.7E+04	1.7E+03

Table I-C -Tier I and Tier II Feed Rate and Emissions Screening Limits for Noncarcinogenic Metals for Facilities in Complex Terrain Values for urban and rural areas

Terrain adjusted eff. stack ht. (m)	Antimony (g/hr)	Barium (g/hr)	Lead (g/hr)	Mercury (g/hr)	Silver (g/hr)	Thallium (g/hr)
110	1.9E+03	3.2E+05	5.8E+02	1.9E+03	1.9E+04	1.9E+03
115	2.1E+03	3.6E+05	6.4E+02	2.1E+03	2.1E+04	2.1E+03
120	2.4E+03	4.0E+05	7.2E+02	2.4E+03	2.4E+04	2.4E+03

Table I-D - Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Noncomplex Terrain

	Values for use in urban areas				Values for use in rural areas			
Terrain adjusted eff. stack ht. (m)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)
4	4.6E-01	1.1E+00	1.7E-01	8.2E-01	2.4E-01	5.8E-01	8.6E-02	4.3E-01
6	5.4E-01	1.3E+00	1.9E-01	9.4E-01	2.8E-01	6.6E-01	1.0E-01	5.0E-01
8	6.0E-01	1.4E+00	2.2E-01	1.1E+00	3.2E-01	7.6E-01	1.1E-01	5.6E-01
10	6.8E-01	1.6E+00	2.4E-01	1.2E+00	3.6E-01	8.6E-01	1.3E-01	6.4E-01
12	7.6E-01	1.8E+00	2.7E-01	1.4E+00	4.3E-01	1.1E+00	1.6E-01	7.8E-01
14	8.6E-01	2.1E+00	3.1E-01	1.5E+00	5.4E-01	1.3E+00	2.0E-01	9.6E-01
16	9.6E-01	2.3E+00	3.5E-01	1.7E+00	6.8E-01	1.6E+00	2.4E-01	1.2E+00
18	1.1E+00	2.6E+00	4.0E-01	2.0E+00	8.2E-01	2.0E+00	3.0E-01	1.5E+00
20	1.2E+00	3.0E+00	4.4E-01	2.2E+00	1.0E+00	2.5E+00	3.7E-01	1.9E+00
22	1.4E+00	3.4E+00	5.0E-01	2.5E+00	1.3E+00	3.2E+00	4.8E-01	2.4E+00
24	1.6E+00	3.9E+00	5.8E-01	2.8E+00	1.7E+00	4.0E+00	6.0E-01	3.0E+00
26	1.8E+00	4.3E+00	6.4E-01	3.2E+00	2.1E+00	5.0E+00	7.6E-01	3.9E+00
28	2.0E+00	4.8E+00	7.2E-01	3.6E+00	2.7E+00	6.4E+00	9.8E-01	5.0E+00
30	2.3E+00	5.4E+00	8.2E-01	4.0E+00	3.5E+00	8.2E+00	1.2E+00	6.2E+00
35	3.0E+00	6.8E+00	1.0E+00	5.4E+00	5.4E+00	1.3E+01	1.9E+00	9.6E+00
40	3.6E+00	9.0E+00	1.3E+00	6.8E+00	8.2E+00	2.0E+01	3.0E+00	1.5E+01
45	4.6E+00	1.1E+01	1.7E+00	8.6E+00	1.1E+01	2.8E+01	4.2E+00	2.1E+01
50	6.0E+00	1.4E+01	2.2E+00	1.1E+01	1.5E+01	3.7E+01	5.4E+00	2.8E+01
55	7.6E+00	1.8E+01	2.7E+00	1.4E+01	2.0E+01	5.0E+01	7.2E+00	3.6E+01
60	9.4E+00	2.2E+01	3.4E+00	1.7E+01	2.7E+01	6.4E+01	9.6E+00	4.8E+01
65	1.1E+01	2.8E+01	4.2E+00	2.1E+01	3.6E+01	8.6E+01	1.3E+01	6.4E+01
70	1.3E+01	3.1E+01	4.6E+00	2.4E+01	4.3E+01	1.0E+02	1.5E+01	7.6E+01
75	1.5E+01	3.6E+01	5.4E+00	2.7E+01	5.0E+01	1.2E+02	1.8E+01	9.0E+01
80	1.7E+01	4.0E+01	6.0E+00	3.0E+01	6.0E+01	1.4E+02	2.2E+01	1.1E+02
85	1.9E+01	4.6E+01	6.8E+00	3.4E+01	7.2E+01	1.7E+02	2.6E+01	1.3E+02
90	2.2E+01	5.0E+01	7.8E+00	3.9E+01	8.6E+01	2.0E+02	3.0E+01	1.5E+02
95	2.5E+01	5.8E+01	9.0E+00	4.4E+01	1.0E+02	2.4E+02	3.6E+01	1.8E+02
100	2.8E+01	6.8E+01	1.0E+01	5.0E+01	1.2E+02	2.9E+02	4.3E+01	2.2E+02
105	3.2E+01	7.6E+01	1.1E+01	5.6E+01	1.4E+02	3.4E+02	5.0E+01	2.6E+02
110	3.6E+01	8.6E+01	1.3E+01	6.4E+01	1.7E+02	4.0E+02	6.0E+01	3.0E+02
115	4.0E+01	9.6E+01	1.5E+01	7.2E+01	2.0E+02	4.8E+02	7.2E+01	3.6E+02
120	4.6E+01	1.1E+02	1.7E+01	8.2E+01	2.4E+02	5.8E+02	8.6E+01	4.3E+02

Table I-E - Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Complex Terrain Values for use in urban and rural areas

Terrain adjusted eff. stack ht. (m)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)
4	1.1E-01	2.6E-01	4.0E-02	2.0E-01
6	1.6E-01	3.9E-01	5.8E-02	2.9E-01
8	2.4E-01	5.8E-01	8.6E-02	4.3E-01

Table I-E - Tier I and Tier II Feed Rate and Emissions Screening Limits for Carcinogenic Metals for Facilities in Complex Terrain Values for use in urban and rural areas				
Terrain adjusted eff. stack ht. (m)	Arsenic (g/hr)	Cadmium (g/hr)	Chromium (g/hr)	Beryllium (g/hr)
10	3.5E-01	8.2E-01	1.3E-01	6.2E-01
12	4.3E-01	1.0E+00	1.5E-01	7.6E-01
14	5.0E-01	1.3E+00	1.9E-01	9.4E-01
16	6.0E-01	1.4E+00	2.2E-01	1.1E+00
18	6.8E-01	1.6E+00	2.4E-01	1.2E+00
20	7.6E-01	1.8E+00	2.7E-01	1.3E+00
22	8.2E-01	1.9E+00	3.0E-01	1.5E+00
24	9.0E-01	2.1E+00	3.3E-01	1.6E+00
26	1.0E+00	2.4E+00	3.6E-01	1.8E+00
28	1.1E+00	2.7E+00	4.0E-01	2.0E+00
30	1.2E+00	3.0E+00	4.4E-01	2.2E+00
35	1.5E+00	3.7E+00	5.4E-01	2.7E+00
40	1.9E+00	4.6E+00	6.8E-01	3.4E+00
45	2.4E+00	5.4E+00	8.4E-01	4.2E+00
50	2.9E+00	6.8E+00	1.0E+00	5.0E+00
55	3.5E+00	8.4E+00	1.3E+00	6.4E+00
60	4.3E+00	1.0E+01	1.5E+00	7.8E+00
65	5.4E+00	1.3E+01	1.9E+00	9.6E+00
70	6.0E+00	1.4E+01	2.2E+00	1.1E+01
75	6.8E+00	1.6E+01	2.4E+00	1.2E+01
80	7.6E+00	1.8E+01	2.7E+00	1.3E+01
85	8.2E+00	2.0E+01	3.0E+00	1.5E+01
90	9.4E+00	2.3E+01	3.4E+00	1.7E+01
95	1.0E+01	2.5E+01	4.0E+00	1.9E+01
100	1.2E+01	2.8E+01	4.3E+00	2.1E+01
105	1.3E+01	3.2E+01	4.8E+00	2.4E+01
110	1.5E+01	3.5E+01	5.4E+00	2.7E+01
115	1.7E+01	4.0E+01	6.0E+00	3.0E+01
120	1.9E+01	4.4E+01	6.4E+00	3.3E+01

Appendix II - Tier I Feed Rate Screening Limits for Total Chlorine			
	Noncomplex Terrain		Complex Terrain
Terrain-adjusted effective stack height (m)	Urban (g/hr)	Rural (g/hr)	(g/hr)
4	8.2E + 01	4.2E + 01	1.9E + 01
6	9.1E + 01	4.8E + 01	2.8E + 01
8	1.0E + 02	5.3E + 01	4.1E + 01
10	1.2E + 02	6.2E + 01	5.8E + 01
12	1.3E + 02	7.7E + 01	7.2E + 01
14	1.5E + 02	9.1E + 01	9.1E + 01
16	1.7E + 02	1.2E + 02	1.1E + 02
18	1.9E + 02	1.4E + 02	1.2E + 02
20	2.1E + 02	1.8E + 02	1.3E + 02
22	2.4E + 02	2.3E + 02	1.4E + 02
24	2.7E + 02	2.9E + 02	1.6E + 02
26	3.1E + 02	3.7E + 02	1.7E + 02
28	3.5E + 02	4.7E + 02	1.9E + 02
30	3.9E + 02	5.8E + 02	2.1E + 02
35	5.3E + 02	9.6E + 02	2.6E + 02
40	6.2E + 02	1.4E + 03	3.3E + 02
45	8.2E + 02	2.0E + 03	4.0E + 02
50	1.1E + 03	2.6E + 03	4.8E + 02
55	1.3E + 03	3.5E + 03	6.2E + 02
60	1.6E + 03	4.6E + 03	7.7E + 02
65	2.0E + 03	6.2E + 03	9.1E + 02
70	2.3E + 03	7.2E + 03	1.1E + 03
75	2.5E + 03	8.6E + 03	1.2E + 03

Appendix II - Tier I Feed Rate Screening Limits for Total Chlorine			
	Noncomplex Terrain		Complex Terrain
80	2.9E + 03	1.0E + 04	1.3E + 03
85	3.3E + 03	1.2E + 04	1.4E + 03
90	3.7E + 03	1.4E + 04	1.6E + 03
95	4.2E + 03	1.7E + 04	1.8E + 03
100	4.8E + 03	2.1E + 04	2.0E + 03
105	5.3E + 03	2.4E + 04	2.3E + 03
110	6.2E + 03	2.9E + 04	2.5E + 03
115	7.2E + 03	3.5E + 04	2.8E + 03
120	8.2E + 03	4.1E + 04	3.2E + 03

Appendix III - Tier II Emission Rate Screening Limits for Free Chlorine & Hydrogen Chloride						
Terrain-adjusted effective stack height (m)	Noncomplex terrain				Complex terrain	
	Values for urban areas		Values for rural areas		Values for use in urban and rural areas	
	Cl_2 (g/hr)	HCl(g/hr)	Cl_2 (g/hr)	HCl(g/hr)	Cl_2 (g/hr)	HCl(g/hr)
4	8.2E + 01	1.4E + 03	4.2E + 01	7.3E + 02	1.9E + 01	3.3E + 02
6	9.1E + 01	1.6E + 03	4.8E + 01	8.3E + 02	2.8E + 01	4.9E + 02
8	1.0E + 02	1.8E + 03	5.3E + 01	9.2E + 02	4.1E + 01	7.1E + 02
10	1.2E + 02	2.0E + 03	6.2E + 01	1.1E + 03	5.8E + 01	1.0E + 03
12	1.3E + 02	2.3E + 03	7.7E + 01	1.3E + 03	7.2E + 01	1.3E + 03
14	1.5E + 02	2.6E + 03	9.1E + 01	1.6E + 03	9.1E + 01	1.6E + 03
16	1.7E + 02	2.9E + 03	1.2E + 02	2.0E + 03	1.1E + 02	1.8E + 03
18	1.9E + 02	3.3E + 03	1.4E + 02	2.5E + 03	1.2E + 02	2.0E + 03
20	2.1E + 02	3.7E + 03	1.8E + 02	3.1E + 03	1.3E + 02	2.3E + 03
22	2.4E + 02	4.2E + 03	2.3E + 02	3.9E + 03	1.4E + 02	2.4E + 03
24	2.7E + 02	4.8E + 03	2.9E + 02	5.0E + 03	1.6E + 02	2.8E + 03
26	3.1E + 02	5.4E + 03	3.7E + 02	6.5E + 03	1.7E + 02	3.0E + 03
28	3.5E + 02	6.0E + 03	4.7E + 02	8.1E + 03	1.9E + 02	3.4E + 03
30	3.9E + 02	6.9E + 03	5.8E + 02	1.0E + 04	2.1E + 02	3.7E + 03
35	5.3E + 02	9.2E + 03	9.6E + 02	1.7E + 04	2.6E + 02	4.6E + 03
40	6.2E + 02	1.1E + 04	1.4E + 03	2.5E + 04	3.3E + 02	5.7E + 03
45	8.2E + 02	1.4E + 04	2.0E + 03	3.5E + 04	4.0E + 02	7.0E + 03
50	1.1E + 03	1.8E + 04	2.6E + 03	4.6E + 04	4.8E + 02	8.4E + 03
55	1.3E + 03	2.3E + 04	3.5E + 03	6.1E + 04	6.2E + 02	1.1E + 04
60	1.6E + 03	2.9E + 04	4.6E + 03	8.1E + 04	7.7E + 02	1.3E + 04
65	2.0E + 03	3.4E + 04	6.2E + 03	1.1E + 05	9.1E + 02	1.6E + 04
70	2.3E + 03	3.9E + 04	7.2E + 03	1.3E + 05	1.1E + 03	1.8E + 04
75	2.5E + 03	4.5E + 04	8.6E + 03	1.5E + 05	1.2E + 03	2.0E + 04
80	2.9E + 03	5.0E + 04	1.0E + 04	1.8E + 05	1.3E + 03	2.3E + 04
85	3.3E + 03	5.8E + 04	1.2E + 04	2.2E + 05	1.4E + 03	2.5E + 04
90	3.7E + 03	6.6E + 04	1.4E + 04	2.5E + 05	1.6E + 03	2.9E + 04
95	4.2E + 03	7.4E + 04	1.7E + 04	3.0E + 05	1.8E + 03	3.2E + 04
100	4.8E + 03	8.4E + 04	2.1E + 04	3.6E + 05	2.0E + 03	3.5E + 04
105	5.3E + 03	9.2E + 04	2.4E + 04	4.3E + 05	2.3E + 03	3.9E + 04
110	6.2E + 03	1.1E + 05	2.9E + 04	5.1E + 05	2.5E + 03	4.5E + 04
115	7.2E + 03	1.3E + 05	3.5E + 04	6.1E + 05	2.8E + 03	5.0E + 04
120	8.2E + 03	1.4E + 05	4.1E + 04	7.2E + 05	3.2E + 03	5.6E + 04

Appendix IV - Reference Air Concentrations*		
Constituent	CAS No.	RAC (ug/m^3)
Acetaldehyde	75-07-0	10
Acetonitrile	75-05-8	10
Acetophenone	98-86-2	100
Acrolein	107-02-8	20
Aldicarb	116-06-3	1
Aluminum Phosphide	20859-73-8	0.3
Allyl Alcohol	107-18-6	5

Appendix IV - Reference Air Concentrations*		
Constituent	CAS No.	RAC (ug/m^3)
Antimony	7440-36-0	0.3
Barium	7440-39-3	50
Barium Cyanide	542-62-1	50
Bromomethane	74-83-9	0.8
Calcium Cyanide	592-01-8	30
Carbon Disulfide	75-15-0	200
Chloral	75-87-6	2

Appendix IV - Reference Air Concentrations*		
Constituent	CAS No.	RAC (ug/m^3)
Chlorine (free)		0.4
2-Chloro-1,3-butadiene	126-99-8	3
Chromium III	16065-83-1	1000
Copper Cyanide	544-92-3	5
Cresols	1319-77-3	50
Cumene	98-82-8	1
Cyanide (free)	57-12-15	20
Cyanogen	460-19-5	30
Cyanogen Bromide	506-68-3	80
Di-n-butyl Phthalate	84-74-2	100
o-Dichlorobenzene	95-50-1	10
p-Dichlorobenzene	106-46-7	10
Dichlorodifluoromethane	75-71-8	200
2,4-Dichlorophenol	120-83-2	3
Diethyl Phthalate	84-66-2	800
Dimethoate	60-51-5	0.8
2,4-Dinitrophenol	51-28-5	2
Dinoseb	88-85-7	0.9
Diphenylamine	122-39-4	20
Endosulfan	115-29-1	0.05
Endrin	72-20-8	0.3
Fluorine	7782-41-4	50
Formic Acid	64-18-6	2000
Glycidyaldehyde	765-34-4	0.3
Hexachlorocyclopentadiene	77-47-4	5
Hexachlorophene	70-30-4	0.3
Hydrocyanic Acid	74-90-8	20
Hydrogen Chloride	7647-01-1	7
Hydrogen Sulfide	7783-06-4	3
Isobutyl Alcohol	78-83-1	300
Lead	7439-92-1	0.09
Maleic Anhydride	108-31-6	100
Mercury	7439-97-6	0.3
Methacrylonitrile	126-98-7	0.1
Methomyl	16752-77-5	20
Methoxychlor	72-43-5	50
Methyl Chlorocarbonate	79-22-1	1000
Methyl Ethyl Ketone	78-93-3	80
Methyl Parathion	298-00-0	0.3
Nickel Cyanide	557-19-7	20
Nitric Oxide	10102-43-9	100
Nitrobenzene	98-95-3	0.8
Pentachlorobenzene	608-93-5	0.8
Pentachlorophenol	87-86-5	30
Phenol	108-95-2	30

Appendix IV - Reference Air Concentrations*		
Constituent	CAS No.	RAC (ug/m^3)
M-Phenylenediamine	108-45-2	5
Phenylmercuric Acetate	62-38-4	0.075
Phosphine	7803-51-2	0.3
Phthalic Anhydride	85-44-9	2000
Potassium Cyanide	151-50-8	50
Potassium Silver Cyanide	506-61-6	200
Pyridine	110-86-1	1
Selenious Acid	7783-60-8	3
Selenourea	630-10-4	5
Silver	7440-22-4	3
Silver Cyanide	506-64-9	100
Sodium Cyanide	143-33-9	30
Strychnine	57-24-9	0.3
1,2,4,5-Tetrachlorobenzene	95-94-3	0.3
2,3,4,6-Tetrachlorophenol	58-90-2	30
Tetraethyl Lead	78-00-2	0.0001
Tetrahydrofuran	109-99-9	10
Thallic Oxide	1314-32-5	0.3
Thallium	7440-28-0	0.5
Thallium (I) Acetate	563-68-8	0.5
Thallium (I) Carbonate	6533-73-9	0.3
Thallium (I) Chloride	7791-12-0	0.3
Thallium (I) Nitrate	10102-45-1	0.5
Thallium Selenite	12039-52-0	0.5
Thallium (I) Sulfate	7446-18-6	0.075
Thiram	137-26-8	5
Toluene	108-88-3	300
1,2,4-Trichlorobenzene	120-82-1	20
Trichloromonofluoromethane	75-69-4	300
2,4,5-Trichlorophenol	95-95-4	100
Vanadium Pentoxide	1314-62-1	20
Warfarin	81-81-2	0.3
Xylenes	1330-20-7	80
Zinc Cyanide	557-21-1	50
Zinc Phosphide	1314-84-7	0.3

*The RAC for other Appendix VIII part 261 constituents not listed herein or in Appendix V of this part is 0.1 ug/m^3.

Appendix V - Risk Specific Doses (10^{-5})			
Constituent	CAS No.	Unit risk (m^3/ug)	RsD (ug/m^3)
Acrylamide	79-06-1	1.3E-03	7.7E-03
Acrylonitrile	107-13-1	6.8E-05	1.5E-01
Aldrin	309-00-2	4.9E-03	2.0E-03
Aniline	62-53-3	7.4E-06	1.4E+00
Arsenic	7440-38-2	4.3E-03	2.3E-03
Benz(a)anthracene	56-55-3	8.9E-04	1.1E-02
Benzene	71-43-2	8.3E-06	1.2E+00
Benzidine	92-87-5	6.7E-02	1.5E-04
Benzo(a)pyrene	50-32-8	3.3E-03	3.0E-03
Beryllium	7440-41-7	2.4E-03	4.2E-03
Bis(2-chloroethyl)ether	111-44-4	3.3E-04	3.0E-02
Bis(chloromethyl)ether	542-88-1	6.2E-02	1.6E-04

Appendix V - Risk Specific Doses (10^{-5})

Bis(2-ethylhexyl)-phthalate	117-81-7	2.4E-07	4.2E+01
1,3-Butadiene	106-99-0	2.8E-04	3.6E-02
Cadmium	7440-43-9	1.8E-03	5.6E-03
Carbon Tetrachloride	56-23-5	1.5E-05	6.7E-01
Chlordane	57-74-9	3.7E-04	2.7E-02
Chloroform	67-66-3	2.3E-05	4.3E-01
Chloromethane	74-87-3	3.6E-06	2.8E+00
Chromium VI	7440-47-3	1.2E-02	8.3E-04
DDT	50-29-3	9.7E-05	1.0E-01
Dibenz(a,h)anthracene	53-70-3	1.4E-02	7.1E-04
1,2-Dibromo-3-chloropropane	96-12-8	6.3E-03	1.6E-03
1,2-Dibromoethane	106-93-4	2.2E-04	4.5E-02
1,1-Dichloroethane	75-34-3	2.6E-05	3.8E-01
1,2-Dichloroethane	107-06-2	2.6E-05	3.8E-01
1,1-Dichloroethylene	75-35-4	5.0E-05	2.0E-01
1,3-Dichloropropene	542-75-6	3.5E-01	2.9E-05
Dieldrin	60-57-1	4.6E-03	2.2E-03
Diethylstilbestrol	56-53-1	1.4E-01	7.1E-05
Dimethylnitrosamine	62-75-9	1.4E-02	7.1E-04
2,4-Dinitrotoluene	121-14-2	8.8E-05	1.1E-01
1,2-Diphenylhydrazine	122-66-7	2.2E-04	4.5E-02
1,4-Dioxane	123-91-1	1.4E-06	7.1E+00
Epichlorohydrin	106-89-8	1.2E-06	8.3E+00
Ethylene Oxide	75-21-8	1.0E-04	1.0E-01
Ethylene Dibromide	106-93-4	2.2E-04	4.5E-02
Formaldehyde	50-00-0	1.3E-05	7.7E-01
Heptachlor	76-44-8	1.3E-03	7.7E-03
Heptachlor Epoxide	1024-57-3	2.6E-03	3.8E-03
Hexachlorobenzene	118-74-1	4.9E-04	2.0E-02
Hexachlorobutadiene	87-68-3	2.0E-05	5.0E-01
Alpha-hexachloro-cyclohexane	319-84-6	1.8E-03	5.6E-03
Beta-hexachloro-cyclohexane	319-85-7	5.3E-04	1.9E-02
Gamma-hexachloro-cyclohexane	58-89-9	3.8E-04	2.6E-02
Hexachlorocyclohexane, Technical		5.1E-04	2.0E-02
Hexachlorodibenzo-p-dioxin(1,2 Mixture)		1.3E+0	7.7E-06
Hexachloroethane	67-72-1	4.0E-06	2.5E+00
Hydrazine	302-01-2	2.9E-03	3.4E-03
Hydrazine Sulfate	302-01-2	2.9E-03	3.4E-03
3-Methylcholanthrene	56-49-5	2.7E-03	3.7E-03
Methyl Hydrazine	60-34-4	3.1E-04	3.2E-02
Methylene Chloride	75-09-2	4.1E-06	2.4E+00
4,4'-Methylene-bis-2-chloroaniline	101-14-4	4.7E-05	2.1E-01
Nickel	7440-02-0	2.4E-04	4.2E-02
Nickel Refinery Dust	7440-02-0	2.4E-04	4.2E-02
Nickel Subsulfide	12035-72-2	4.8E-04	2.1E-02
2-Nitropropane	79-46-9	2.7E-02	3.7E-04
N-Nitroso-n-butylamine	924-16-3	1.6E-03	6.3E-03
N-Nitroso-n-methylurea	684-93-5	8.6E-02	1.2E-04
N-Nitrosodiethylamine	55-18-5	4.3E-02	2.3E-04
N-Nitrosopyrrolidine	930-55-2	6.1E-04	1.6E-02
Pentachloronitro-benzene	82-68-8	7.3E-05	1.4E-01
PCBs	1336-36-3	1.2E-03	8.3E-03
Pronamide	23950-58-5	4.6E-06	2.2E+00
Reserpine	50-55-5	3.0E-03	3.3E-03
2,3,7,8-Tetrachloro-dibenzo-p-dioxin	1746-01-6	4.5E+01	2.2E-07
1,1,2,2-Tetrachloroethane	79-34-5	5.8E-05	1.7E-01
Tetrachloroethylene	127-18-4	4.8E-07	2.1E+01
Thiourea	62-56-6	5.5E-04	1.8E-02
1,1,2-Trichloroethane	79-00-5	1.6E-05	6.3E-01
Trichloroethylene	79-01-6	1.3E-06	7.7E+00
2,4,6-Trichlorophenol	88-06-2	5.7E-06	1.8E+00
Toxaphene	8001-35-2	3.2E-04	3.1E-02
Vinyl Chloride	75-01-4	7.1E-06	1.4E+00

Appendix VI - Stack Plume Rise
[Estimated Plume Rise (in Meters) Based on Stack Exit Flow Rate and Gas Temperature]

Flow rate (m^3/s)	Exhaust Temperature (K^o)										
	<325	325-349	350-399	400-449	450-499	500-599	600-699	700-799	800-999	1000-1499	>1499
<0.5	0	0	0	0	0	0	0	0	0	0	0
0.5-0.9	0	0	0	0	0	0	0	0	1	1	1
1.0-1.9	0	0	0	0	1	1	2	3	3	3	4
2.0-2.9	0	0	1	3	4	4	6	6	7	8	9
3.0-3.9	0	1	2	5	6	7	9	10	11	12	13
4.0-4.9	1	2	4	6	8	10	12	13	14	15	17
5.0-7.4	2	3	5	8	10	12	14	16	17	19	21
7.5-9.9	3	5	8	12	15	17	20	22	22	23	24
10.0-12.4	4	6	10	15	19	21	23	24	25	26	27
12.5-14.9	4	7	12	18	22	23	25	26	27	28	29
15.0-19.9	5	8	13	20	23	24	26	27	28	29	31
20.0-24.9	6	10	17	23	25	27	29	30	31	32	34
25.0-29.9	7	12	20	25	27	29	31	32	33	35	36
30.0-34.9	8	14	22	26	29	31	33	35	36	37	39
35.0-39.9	9	16	23	28	30	32	35	36	37	39	41
40.0-49.9	10	17	24	29	32	34	36	38	39	41	42
50.0-59.9	12	21	26	31	34	36	39	41	42	44	46
60.0-69.9	14	22	27	33	36	39	42	43	45	47	49
70.0-79.9	16	23	29	35	38	41	44	46	47	49	51
80.0-89.9	17	25	30	36	40	42	46	48	49	51	54
90.0-99.9	19	26	31	38	42	44	48	50	51	53	56
100.0-119.9	21	26	32	39	43	46	49	52	53	55	58
120.0-139.9	22	28	35	42	46	49	52	55	56	59	61
140.0-159.9	23	30	36	44	48	51	55	58	59	62	65
160.0-179.9	25	31	38	46	50	54	58	60	62	65	67
180.0-199.9	26	32	40	48	52	56	60	63	65	67	70
>199.9	26	33	41	49	54	58	62	65	67	69	73

Appendix VII - Health-Based Limits for Exclusion of Waste-Derived Residues-

METALS-TCLP EXTRACT CONCENTRATION LIMITS (12/94)

Constituent	CAS No.	Concentration limits (mg/L)
Antimony	7440-36-0	1xE+00
Arsenic	7440-38-2	5xE+00
Barium	7440-39-3	1xE+02
Beryllium	7440-41-7	7xE-03
Cadmium	7440-43-9	1xE+00
Chromium	7440-47-3	5xE+00
Lead	7439-92-1	5xE+00
Mercury	7439-97-6	2xE-01
Nickel	7440-02-0	7xE+01
Selenium	7782-49-2	1xE+00
Silver	7440-22-4	5xE+00
Thallium	7440-28-0	7XE+00

NONMETALS-RESIDUE CONCENTRATION LIMITS

Constituent	CAS No.	Concentration limits for residues (mg/kg)
Acetonitrile	75-05-8	2xE-01
Acetophenone	98-86-2	4xE+00
Acrolein	107-02-8	5xE-01
Acrylamide	79-06-1	2xE-04
Acrylonitrile	107-13-1	7xE-04
Aldrin	309-00-2	2xE-05
Allyl alcohol	107-18-6	2xE-01
Aluminum phosphide	20859-73-8	1xE-02
Aniline	62-53-3	6xE-02

Appendix VII - Health-Based Limits for Exclusion of Waste-Derived Residues-

Barium cyanide	542-62-1	1xE+00
Benz(a)anthracene	56-55-3	1xE-04
Benzene	71-43-2	5xE-03
Benzidine	92-87-5	1xE-06
Bis(2-chloroethyl) ether	111-44-4	3xE-04
Bis(chloromethyl) ether	542-88-1	2xE-06
Bis(2-ethylhexyl) phthalate	117-81-7	3xE+01
Bromoform	75-25-2	7xE-01
Calcium cyanide	592-01-8	1xE-06
Carbon disulfide	75-15-0	4xE+00
Carbon tetrachloride	56-23-5	5xE-03
Chlordane	57-74-9	3xE-04
Chlorobenzene	108-90-7	1xE+00
Chloroform	67-66-3	6xE-02
Copper cyanide	544-92-3	2xE-01
Cresols (Cresylic acid)	1319-77-3	2xE+00
Cyanogen	460-19-5	1xE+00
DDT	50-29-3	1xE-03
Dibenz(a, h)-anthracene	53-70-3	7xE-06
1,2-Dibromo-3-chloropropane	96-12-8	2xE-05
p-Dichlorobenzene	106-46-7	7.5xE-02
Dichlorodifluoromethane	75-71-8	7xE+00
1,1-Dichloroethylene	75-35-4	5xE-03
2,4-Dichlorophenol	120-83-2	1xE-01
1,3-Dichloropropene	542-75-6	1xE-03
Dieldrin	60-57-1	2xE-05
Diethyl phthalate	84-66-2	3xE+01
Diethylstilbesterol	56-53-1	7xE-07
Dimethoate	60-51-5	3xE-02
2,4-Dinitrotoluene	121-14-2	5xE-04
Diphenylamine	122-39-4	9xE-01
1,2-Diphenylhydrazine	122-66-7	5xE-04
Endosulfan	115-29-7	2xE-03
Endrin	72-20-8	2xE-04
Epichlorohydrin	106-89-8	4xE-02
Ethylene dibromide	106-93-4	4xE-07
Ethylene oxide	75-21-8	3xE-04
Fluorine	7782-41-4	4xE+00
Formic acid	64-18-6	7xE+01
Heptachlor	76-44-8	8xE-05
Heptachlor epoxide	1024-57-3	4xE-05
Hexachlorobenzene	118-74-1	2xE-04
Hexachlorobutadiene	87-68-3	5xE-03
Hexachlorocyclopentadiene	77-47-4	2xE-01
Hexachlorodibenzo-p-dioxins	19408-74-3	6xE-08
Hexachloroethane	67-72-1	3xE-02
Hydrazine	302-01-1	1xE-04
Hydrogen cyanide	74-90-8	7xE-05
Hydrogen sulfide	7783-06-4	1xE-06
Isobutyl alcohol	78-83-1	1xE+01
Methomyl	16752-77-5	1xE+00
Methoxychlor	72-43-5	1xE-01
3-Methylcholanthrene	56-49-5	4xE-05
4,4'-Methylenebis (2-chloroaniline)	101-14-4	2xE-03
Methylene chloride	75-09-2	5xE-02
Methyl ethyl ketone (MEK)	78-93-3	2xE+00
Methyl hydrazine	60-34-4	3xE-04
Methyl parathion	298-00-0	2xE-02
Naphthalene	91-20-3	1xE+01
Nickel cyanide	557-19-7	7xE-01
Nitric oxide	10102-43-9	4xE+00
Nitrobenzene	98-95-3	2xE-02
N-Nitrosodi-n-butylamine	924-16-3	6xE-05

Appendix VII - Health-Based Limits for Exclusion of Waste-Derived Residues-		
N-Nitrosodiethylamine	55-18-5	2xE-06
N-Nitroso-N-methylurea	684-93-5	1xE-07
N-Nitrosopyrrolidine	930-55-2	2xE-04
Pentachlorobenzene	608-93-5	3xE-02
Pentachloronitrobenzene (PCNB)	82-68-8	1xE-01
Pentachlorophenol	87-86-5	1xE+00
Phenol	108-95-2	1xE+00
Phenylmercury acetate	62-38-4	3xE-03
Phosphine	7803-51-2	1xE-02
Polychlorinated biphenyls, N.O.S	1336-36-3	5xE-05
Potassium cyanide	151-50-8	2xE+00
Potassium silver cyanide	506-61-6	7xE+00
Pronamide	23950-58-5	3xE+00
Pyridine	110-86-1	4xE-02
Reserpine	50-55-5	3xE-05
Selenourea	630-10-4	2xE-01
Silver cyanide	506-64-9	4xE+00
Sodium cyanide	143-33-9	1xE+00
Strychnine	57-24-9	1xE-02
1,2,4,5-Tetrachlorobenzene	95-94-3	1xE-02
1,1,2,2-tetrachloroethane	79-34-5	2xE-03
Tetrachloroethylene	127-18-4	7xE-01
2,3,4,6-Tetrachlorophenol	58-90-2	1xE-02
Tetraethyl lead	78-00-2	4xE-06
Thiourea	62-56-6	2xE-04
Toluene	108-88-3	1xE+01
Toxaphene	8001-35-2	5xE-03
1,1,2-Trichloroethane	79-00-5	6xE-03
Trichloroethylene	79-01-6	5xE-03
Trichloromonofluoromethane	75-69-4	1xE+01
2,4,5-Trichlorophenol	95-95-4	4xE+00
2,4,6-Trichlorophenol	88-06-2	4xE+00
Vanadium pentoxide	1314-62-1	7xE-01
Vinyl chloride	75-01-4	2xE-03

Note 1: The health-based concentration limits for Appendix VIII part 261 constituents for which a health-based concentration is not provided below is 2xE-06 mg/kg.

Note 2: The levels specified in this Appendix and the default level of 0.002 micrograms per kilogram or the level of detection for constituents as identified in Note 1 of this Appendix are administratively stayed under the condition, for those constituents specified in 266.112(b)(1), that the owner or operator complies with alternative levels defined as the land disposal restriction limits specified in 268.43 for F039 nonwastewaters. See 266.112(b)(2)(i).

Appendix VIII – Organic Compounds for which Residues must be Analyzed PICs Found in Stack Effluents	
Volatiles	Semivolatiles
Benzene	Bis(2-ethylhexyl)phthalate
Toluene	Naphthalene
Carbon tetrachloride	Phenol
Chloroform	Diethyl phthalate
Methylene chloride	Butyl benzyl phthalate
Trichloroethylene	2,4-Dimethylphenol
Tetrachloroethylene	o-Dichlorobenzene
1,1,1-Trichloroethane	m-Dichlorobenzene
Chlorobenzene	p-Dichlorobenzene
cis-1,4-Dichloro-2-butene	Hexachlorobenzene
Bromochloromethane	2,4,6-Trichlorophenol
Bromodichloromethane	Fluoranthene
Bromoform	o-Nitrophenol
Bromomethane	1,2,4-Trichlorobenzene
Methylene bromide	o-Chlorophenol
Methyl ethyl ketone	Pentachlorophenol
	Pyrene

Appendix VIII – Organic Compounds for which Residues must be Analyzed PICs Found in Stack Effluents	
Volatiles	Semivolatiles
	Dimethyl phthalate
	Mononitrobenzene
	2,6-Toluene diisocyanate
	Polychlorinated dibenzo-p-dioxins
	Polychlorinated dibenzo-furans[1]

[1] Analyses for polychlorinated dibenzo-p-dioxins and poly-chlorinated dibenzo-furans are required only for residues collected from areas downstream of the combustion chamber (e.g., ductwork, boiler tubes, heat exchange surfaces, air pollution control devices, etc.).

NOTE TO TABLE: Analysis is not required for those compounds that do not have an established F039 nonwastewater concentration limit.

Appendix IX - Methods Manual for Compliance With the BIF Regulations

Burning Hazardous Waste in Boilers and Industrial Furnaces

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3.0 Sampling and Analytical Methods
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3.6 Analysis for Aldehydes and Ketones by High Performance Liquid Chromatography (HPLC) (Method 0011A)
4.0 Procedure for Estimating Toxicity Equipment of Chlorinated Dibenzo-P-Dioxin and Dibenzofuran Congeners
5.0 Hazardous Waste Combustion Air Quality Screening Procedure
6.0 Simplified Land Use Classification Procedure for Compliance With Tier I and Tier II Limits
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Section 1.0 Introduction

This document presents required methods for demonstrating compliance with U.S. Environmental Protection Agency regulations for boilers and industrial furnaces (BIFs) burning hazardous waste (see part 266, subpart H). Included in this document are:

1. Performance Specifications for Continuous Emission Monitoring (CEM) of Carbon Monoxide, Oxygen, and Hydrocarbons in Stack Gases.
2. Sampling and Analytical (S&A) Methods for Multiple Metals, Hexavalent Chromium, HCl and Chlorine, Polychlorinated Dibenzo-p-dioxins and Dibenzofurans, and Aldehydes and Ketones.
3. Procedures for Estimating the Toxicity Equivalency of Chlorinated Dibenzo-p-dioxin and Dibenzofuran Congeners.
4. Hazardous Waste Combustion Air Quality Screening Procedures (HWCAQSP).
5. Simplified Land Use Classification Procedure for Compliance with Tier I and Tier II Limits.
6. Statistical Methodology for Bevill Residue Determinations.
7. Procedures for Determining Default Values for Air Pollution Control System Removal Efficiencies.
8. Procedures for Determining Default Values for Partitioning of Metals, Ash, and Total Chloride/Chlorine.
9. Alternate Methodology for Implementing Metals Controls.

Additional methods referenced in subpart H of part 266 but not included in this document can be found in 40 CFR parts 60 and 61, and "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (SW-846).

The CEM performance specifications of section 2.0, the S&A methods of section 3.0 and the toxicity equivalency procedure for dioxins and furans of section 4.0 are required procedures for determining compliance with BIF regulations. The CEM performance specifications and the S&A methods are interim. The finalized CEM performance specifications and methods will be published in SW-846 or 40 CFR parts 60 and 61.

Section 2.0 Performance Specifications For Continuous Emission Monitoring Systems

2.1 Performance Specifications for Continuous Emission Monitoring of Carbon Monoxide and Oxygen for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste

2.1.1 Applicability and Principle

2.1.1.1 Applicability. These performance specifications apply to carbon monoxide (CO) and oxygen (O_2) continuous emission monitoring systems (CEMSs) installed on incinerators, boilers, and industrial furnaces burning hazardous waste. The specifications include procedures which are intended to be used to evaluate the acceptability of the CEMS at the time of its installation or whenever specified in regulations or permits. The procedures are not designed to evaluate CEMS performance over an extended period of time. The source owner or operator is responsible for the proper calibration, maintenance, and operation of the CEMS at all times.

2.1.1.2 Principle. Installation and measurement location specifications, performance and equipment specifications, test and

data reduction procedures, and brief quality assurance guidelines are included in the specifications. Calibration drift, relative accuracy, calibration error, and response time tests are conducted to determine conformance of the CEMS with the specifications.

2.1.2 Definitions

2.1.2.1 Continuous Emission Monitoring System (CEMS). A continuous monitor is one in which the sample to be analyzed passes the measurement section of the analyzer without interruption, and which evaluates the detector response to the sample at least once each 15 seconds and computes and records the results at least every 60 seconds. A CEMS consists of all the equipment used to acquire data and includes the sample extraction and transport hardware, the analyzer(s), and the data recording/processing hardware and software.

2.1.2.2 Monitoring System Types. The specifications require CEMSs capable of accepting calibration gases. Alternative system designs may be used if approved by the Department. There are two basic types of monitoring systems: extractive and in-situ.

2.1.2.2.1 Extractive. Systems that use a pump or other mechanical, pneumatic, or hydraulic means to draw a sample of the stack or flue gas and convey it to a remotely located analyzer.

2.1.2.2.2 In-situ. Systems that perform an analysis without removing a sample from the stack. Point in-situ analyzers place the sensing or detecting element directly in the flue gas stream. Cross-stack in-situ analyzers measure the parameter of interest by placing a source beam on one side of the stack and the detector (in single-pass instruments) or a retroreflector (in double-pass instruments) on the other side, and measuring the parameter of interest (e.g., CO) by the attenuation of the beam by the gas in its path.

2.1.2.3 Instrument Measurement Range. The difference between the minimum and maximum concentration that can be measured by a specific instrument. The minimum is often stated or assumed to be zero and the range expressed only as the maximum.

2.1.2.4 Span or Span Value. Full scale instrument measurement range.

2.1.2.5 Calibration Drift (CD). The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment takes place. A CD test is performed to demonstrate the stability of the CEMS calibration over time.

2.1.2.6 Response Time. The time interval between the start of a step change in the system input (e.g., change of calibration gas) and the time when the data recorder displays 95 percent of the final value.

2.1.2.7 Accuracy. A measure of agreement between a measured value and an accepted or true value, expressed as the percentage difference between the true and measured values relative to the true value. For these performance specifications, accuracy is checked by conducting a calibration error (CE) test and a relative accuracy (RA) test. Certain facilities, such as those using solid waste or batch-fed processes, may observe long periods of almost no CO emissions with brief, high-level CO emission spikes. These facilities, as well as facilities whose CO emissions never exceed 5-10 ppm, may need to be exempted from the RA requirement because the RA test procedure cannot ensure acquisition of meaningful test results under these conditions. An alternative procedure for accuracy determination is described in section 2.1.9.

2.1.2.8 Calibration Error (CE). The difference between the concentration indicated by the CEMS and the known concentration of the cylinder gas. A CE test procedure is performed to document the accuracy and linearity of the monitoring equipment over the entire measurement range.

2.1.2.9 Relative Accuracy (RA). A comparison of the CEMS response to a value measured by a performance test method (PTM). The RA test is used to validate the calibration technique and verify the ability of the CEMS to provide representative and accurate measurements.

2.1.2.10 Performance Test Method (PTM). The sampling and analysis procedure used to obtain reference measurements for comparison to CEMS measurements. The applicable test methods are Method 10, 10A, or 10B (for the determination of CO) and Method 3 or 3A (for the determination of 0^2). These methods are found in 40 CFR part 60, Appendix A.

2.1.2.11 Performance Specification Test (PST) Period. The period during which CD, CE, response time, and RA tests are conducted.

2.1.2.12 Centroidal Area. A concentric area that is geometrically similar to the stack or duct cross section and is no greater than 1 percent of the stack or duct cross-sectional area.

2.1.3 Installation and Measurement Location Specifications

2.1.3.1 CEMS Installation and Measurement Locations. The CEMS shall be installed in a location in which measurements representative of the source's emissions can be obtained. The optimum location of the sample interface for the CEMS is determined by a number of factors, including ease of access for calibration and maintenance, the degree to which sample conditioning will be required, the degree to which it represents total emissions, and the degree to which it represents the combustion situation in the firebox. The location should be as free from in-leakage influences as possible and reasonably free from severe flow disturbances. The sample location should be at least two equivalent duct diameters downstream from the nearest control device, point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate occurs and at least 0.5 diameter upstream from the exhaust or control device. The equivalent duct diameter is calculated as per 40 CFR part 60, Appendix A, method 1, section 2.1. If these criteria are not achievable or if the location is otherwise less than optimum, the possibility of stratification should be checked as described in Section 2.1.3.3 to determine whether the location would cause failure of the relative accuracy test.

2.1.3.1.1 For extractive or point in-situ CEMSs, the measurement point should be within or centrally located over the centroidal area of the stack or duct cross section.

2.1.3.1.2 For cross-stack CEMSs, the effective measurement path should (1) have at least 70 percent of the path within the inner 50 percent of the stack or duct cross-sectional area or (2) be centrally located over any part of the centroidal area.

2.1.3.1.3 Both the CO and O_2 monitors should be installed at the same general location. If this is not possible, they may be installed at different locations if the effluent gases at both sample locations are not stratified and there is no in-leakage of air between sampling locations.

2.1.3.2 Performance Test Method (PTM) Measurement Location and Traverse Points.

2.1.3.2.1 Select an accessible PTM measurement point at least two equivalent diameters downstream from the nearest control device,

the point of CO generation, or other point at which a change in the CO concentration may occur, and at least a half equivalent diameter upstream from the effluent exhaust or control device. When pollutant concentration changes are due solely to diluent leakage (e.g., air heater leakages) and CO and O_2 are simultaneously measured at the same location, one half diameter may be used in place of two equivalent diameters. The CEMS and PTM locations need not be the same.

2.1.3.2.2 Select traverse points that ensure acquisition of representative samples over the stack or duct cross section. At a minimum, establish a measurement line that passes through the centroidal area in the direction of any expected stratification. If this line interferes with the CEMS measurements, displace the line up to 30 cm (or 5 percent of the equivalent diameter of the cross section, whichever is less) from the centroidal area. Locate three traverse points at 17, 50, and 83 percent of the measurement line. If the measurement line is no longer than 2.4 meters and pollutant stratification is not expected, the tester may choose to locate the three traverse points on the line at 0.4, 1.2, and 2.0 meters from the stack or duct wall. This option must not be used at a site located within eight equivalent diameters downstream of a flow disturbance. The tester may select other traverse points, provided that they can be shown to the satisfaction of the Administrator to provide a representative sample over the stack or duct cross-section. Conduct all necessary PTM tests within 3 cm of the selected traverse points. Sampling must not be performed within 3 cm of the duct or stack inner wall.

2.1.3.3 Stratification Test Procedure. Stratification is defined as a difference in excess of 10 percent between the average concentration in the duct or stack and the concentration at any point more than 1.0 meter from the duct or stack wall. To determine whether effluent stratification exists, a dual probe system should be used to determine the average effluent concentration while measurements at each traverse point are being made. One probe, located at the stack or duct centroid, is used as a stationary reference point to indicate the change in effluent concentration over time. The second probe is used for sampling at the traverse points specified in method 1, Appendix A, 40 CFR part 60. The monitoring system samples sequentially at the reference and traverse points throughout the testing period for five minutes at each point.

2.1.4 CEMS Performance and Equipment Specifications

Table 2.1-1 summarizes the performance specifications for the CEMSs. Two sets of standards for CO are given; one for low-range and another for high-range measurements. The high-range specifications relate to measurement and quantification of short duration high concentration peaks, while the low-range specifications relate to the overall average operating condition of the burning device. The dual-range specifications can be met by using (1) one analyzer for each range, (2) a dual range unit, or (3) a single measurement range instrument capable of meeting both specifications with a single unit. Adjustments cannot be made to the analyzer between determinations of low- and high-level accuracy within the single measurement range. In the second case, when the concentration exceeds the span of the lower range, the data acquisition system recorder shall switch to the high range automatically.

2.1.4.1 CEMS Span Value. In order to measure high and low concentrations with the same or similar degree of accuracy, the maximum ranges (span values) are specified for low and high range analyzers. The span values are listed in Table 2.1-2. Tier I and Tier II format definitions are established in part 266, subpart H.

Table 2.1-1. Performance Specifications of CO and O_2 Monitors

Parameter	CO monitors		O_2 monitors
	Low range	High range	
Calibration drift 24 hours	< 6 ppm[1]	<90 ppm	<0.5% O_2
Calibration error	<10 ppm[1]	<150 ppm	<0.5% O_2
Response time	<2 min	<2 min	<2 min
Relative accuracy[2]	([3])	([3])	(incorporated in CO RA calculation)

[1]For Tier II, CD and CE are #3% and #5% or twice the permit limit, respectively.
[2]Expressed as the sum of the mean absolute value plus the 95% confidence interval of a series of measurements.
[3]The greater of 10% of PTM or 10 ppm.

Table 2.1-2. CEMS Span Values for CO and O_2 Monitors

	CO monitors		O_2 monitors (percent)
	Low range (ppm)	High range (ppm)	
Tier I rolling average format.	200	3,000	25
Tier II rolling average format.	2 x permit limit	3,000	25

2.1.4.2 Daily Calibration Gas Values. The owner or operator must choose calibration gas concentrations (or calibration filters for in-situ systems) that include zero and high-level calibration values for the daily calibration checks. For a single measurement range monitor, three CO calibration gas concentrations (or calibration filters for in-situ systems) shall be used, i.e., the zero and high-level concentrations of the low-range CO analyzer and the high-level concentration of the high-range CO analyzer.

2.1.4.2.1 The zero level for the CO or O_2 analyzer may be between zero and 20 percent of the span value, e.g., 0-40 ppm for low-range CO analyzer, 0-600 ppm for the high-range CO analyzer, and 0-5 percent for the O_2 analyzer (for Tier I).

2.1.4.2.2 The high-level concentration for the CO or O_2 analyzer shall be between 50 and 90 percent of the span value, i.e., 100-180 ppm for the low-range CO analyzer, 1500-2700 ppm for the high-range CO analyzer, and 12.5-22.5 percent O_2 for the O_2 analyzer.

2.1.4.3 Data Recorder Scale. The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEMS's measurement range and shall have a resolution of 0.5 percent of span value, i.e., 1 ppm CO for low-range CO analyzer, 15 ppm CO for high-range CO analyzer, and 0.1 percent O_2 for the O_2 analyzer.

2.1.4.4 Response Time. The response time for the CO or O_2 monitor shall not exceed 2 minutes to achieve 95 percent of the final stable value.

2.1.4.5 Calibration Drift. The CEMS must allow the determination of CD at the zero and high-level values. The CD must be determined separately for CO and O_2 monitors in terms of concentration. The CO CEMS calibration response must not drift or deviate from the reference value of the calibration gas (or calibration filters for in-situ systems) by more than 3 percent of the span value after each 24-hour period of the 7-day test, i.e., 6 ppm CO for the low-range analyzer (Tier I) and 90 ppm for the high-range analyzer, at both zero and high levels. The O_2 monitor calibration response must not drift or deviate from the reference value by more than 0.5 percent O_2 at both zero and high levels.

2.1.4.6 Relative Accuracy. The result of the RA test of the CO CEMS (which incorporates the O_2 monitor) must be no greater than 10 percent of the mean value of the PTM results or must be within 10 ppm CO of the PTM results, whichever is less restrictive. The ppm CO concentration shall be corrected to 7 percent O_2 before calculating the RA.

2.1.4.7 Calibration Error. The mean difference between the CEMS and reference values at all three test points (see Table 2.1-3) must be no greater than 5 percent of span value for CO monitors (i.e., 10 ppm CO for low range Tier I CO analyzers and 150 ppm CO for high range CO analyzers) and 0.5 percent for O_2 analyzers.

2.1.4.8 Measurement and Recording Frequency. The sample to be analyzed shall pass through the measurement section of the analyzer without interruption. The detector shall measure the sample concentration at least once every 15 seconds. An average emission rate shall be computed and recorded at least once every 60 seconds.

2.1.4.9 Hourly Rolling Average Calculation. The CEMS shall calculate every minute an hourly rolling average, which is the arithmetic mean of the 60 most recent 1-minute average values.

2.1.4.10 Retest. If the CEMS produces results within the specified criteria, the test is successful. If the CEMS does not meet one or more of the criteria, the necessary corrections must be made and the performance tests repeated.

2.1.5 Test Periods

2.1.5.1 Pretest Preparation Period. Install the CEMS, prepare the PTM test site according to the specifications in section 2.1.3, and prepare the CEMS for operation and calibration according to the manufacturer's written instructions. A pretest conditioning period similar to that of the 7-day CD test is recommended to verify the operational status of the CEMS.

2.1.5.2 Calibration Drift Test Period. While the facility is operating under normal conditions, determine the CD at 24-hour intervals for seven consecutive days according to the procedure given in section 2.1.6.1. All CD determinations must be made following a 24-hour period during which no unscheduled maintenance, repair, or adjustment takes place. If the combustion unit is taken out of service during the test period, record the onset and duration of the downtime and continue the calibration drift test when the unit resumes operation.

2.1.5.3 Relative Accuracy Test Period. Conduct the RA test according to the procedure in section 2.1.6.4 while the facility is operating under normal conditions. RA testing for CO and O_2 shall be conducted simultaneously so that the results can be calculated for CO corrected to 7 percent O_2. The RA test shall be conducted during the CD test period. It is emphasized that during the CD test period, no adjustments or repairs may be made to the CEMS other than routine calibration adjustments performed immediately following the daily CD determination.

2.1.5.4 Calibration Error Test and Response Time Test Periods. Conduct the CE and response time tests during the CD test period.

2.1.6 Performance Specification Test Procedures

2.1.6.1 Calibration Drift Test.

2.1.6.1.1 Sampling Strategy. Conduct the CD test for all monitors at 24-hour intervals for seven consecutive days using calibration gases at the two (or three, if applicable) concentration levels specified in section 2.1.4.2. Introduce the calibration gases into the sampling system as close to the sampling probe outlet as practical. The gas shall pass through all filters, scrubbers, conditioners, and other CEMS components used during normal sampling. If periodic automatic or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before these adjustments, or conduct it in such a way that the CD can be determined. Record the CEMS response and subtract this value from the reference (calibration gas) value. To meet the specification, none of the differences shall exceed the limits specified in Table 2.1-1.

2.1.6.1.2 Calculations. Summarize the results on a data sheet. An example is shown in Figure 2.1-1. Calculate the differences between the CEMS responses and the reference values.

2.1.6.2 Response Time. Check the entire CEMS including sample extraction and transport, sample conditioning, gas analyses, and the data recording.

2.1.6.2.1 Introduce zero gas into the system. For extractive systems, introduce the calibration gases at the probe as near to the sample location as possible. For in-situ system, introduce the zero gas at a point such that all components active in the analysis are tested. When the system output has stabilized (no change greater than 1 percent of full scale for 30 seconds), switch to monitor stack effluent and wait for a stable value. Record the time (upscale response time) required to reach 95 percent of the final stable value.

2.1.6.2.2 Next, introduce a high-level calibration gas and repeat the above procedure. Repeat the entire procedure three times and determine the mean upscale and downscale response times. The longer of the two means is the system response time.

2.1.6.3 Calibration Error Test Procedure.

2.1.6.3.1 Sampling Strategy. Challenge each monitor (both low- and high-range CO and O_2) with zero gas and EPA Protocol 1 cylinder gases at three measurement points within the ranges specified in Table 2.1-3.

Table 2.1-3. Calibration Error Concentration Ranges for Tier I

Measurement point	Gas Concentration Ranges		
	CO_2, ppm		0_2 percent
	Low range[1]	High range	
	0-40	0-60	0-2
	60-80	900-1200	8-10
	140-160	2100-2400	14-16

[1] For Tier II, the CE specifications for the low-range CO CEMS are 0-20%, 30-40%, and 70-80% of twice the permit limit

SOURCE:	DATE:
MONITOR:	LOCATION:
SERIAL NUMBER:	SPAN:
LOW RANGE	
HIGH RANGE	

	DAY	DATE	TIME	CALIBRATION VALUE	MONITOR RESPONSE	DIFFERENCE	PERCENT OF SPAN*
ZERO/ LOW LEVEL	1						
	2						
	3						
	4						
	5						
	6						
	7						
HIGH LEVEL	1						
	2						
	3						
	4						
	5						
	6						
	7						

*Acceptance Criteria : # 5% of span each day for seven days.

Figure 2.1-1 Calibration Drift Determination

2.1.6.3.1.1 If a single measurement range is used, the calibration gases used in the daily CD checks (if they are Protocol 1 cylinder gases and meet the criteria in section 2.1.6.3.1) may be used for determining CE.

2.1.6.3.1.2 Operate each monitor in its normal sampling mode as nearly as possible. The calibration gas shall be injected into the sample system as close to the sampling probe outlet as practical and should pass through all CEMS components used during normal sampling. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each gas injection should be sufficient to ensure that the CEMS surfaces are conditioned.

2.1.6.3.2 Calculations. Summarize the results on a data sheet. An example data sheet is shown in Figure 2.1-2. Average the differences between the instrument response and the certified cylinder gas value for each gas. Calculate three CE results (five CE results for a single-range CO CEMS) according to Equation 5 (section 2.1.7.5). No confidence coefficient is used in CE calculations.

2.1.6.4 Relative Accuracy Test Procedure.

2.1.6.4.1 Sampling Strategy for PTM tests. Conduct the PTM tests in such a way that they will yield measurements representative of the emissions from the source and can be correlated to the CEMS data. Although it is preferable to conduct the CO, diluent, and moisture (if needed) simultaneously, moisture measurements that are taken within a 60-minute period which includes the simultaneous CO and O_2 measurements may be used to calculate the dry CO concentration.

Note: At times, CEMS RA tests may be conducted during incinerator performance tests. In these cases, PTM results obtained during CEMS RA tests may be used to determine compliance with incinerator emissions limits as long as the source and test conditions are consistent with the applicable regulations.

SOURCE:	DATE:
MONITOR:	LOCATION:
SERIAL NUMBER:	SPAN:
LOW RANGE	
HIGH RANGE	

RUN NUMBER	CALIBRATION VALUE	MONITOR RESPONSE	DIFFERENCE		
			Zero/Low	Mid	High
1 - Zero					
2 - Mid					
3 - High					
4 - Mid					
5 - Zero					
6 - High					
7 - Zero					
8 - Mid					
9 - High					
MEAN DIFFERENCE =					
CALIBRATION ERROR =			%	%	%

Figure 2.1-2 Calibration Error Determination

2.1.6.4.2 Performance Test Methods.

2.1.6.4.2.1 Unless otherwise specified in the regulations, method 3 or 3A and method 10, 10A, or 10B (40 CFR part 60, Appendix A) are the test methods for O_2 and CO, respectively. Make a sample traverse of at least 21 minutes, sampling for 7 minutes at each of three traverse points (see section 3.2).

2.1.6.4.2.2 When the installed CEMS uses a nondispersive infrared (NDIR) analyzer, method 10 shall use the alternative interference trap specified in section 10.1 of the method. An option, which may be approved by the Administrator in certain cases, would allow the test to be conducted using method 10 without the interference trap. Under this option, a laboratory interference test is performed for the analyzer prior to the field test. The laboratory interference test includes the analysis of SO_2, NO, and CO_2 calibration gases over the range of expected effluent concentrations. Acceptable performance is indicated if the CO analyzer response to each of the gases is less than 1 percent of the applicable measurement range of the analyzer.

2.1.6.4.3 Number of PTM Tests. Conduct a minimum of nine sets of all necessary PTM tests. If more than nine sets are conducted, a maximum of three sets may be rejected at the tester's discretion. The total number of sets used to determine the RA must be greater than or equal to nine. All data, including the rejected data, must be reported.

2.1.6.4.4 Correlation of PTM and CEMS Data. The time and duration of each PTM test run and the CEMS response time should be considered in correlating the data. Use the CEMS final output (the one used for reporting) to determine an integrated average CO concentration for each PTM test run. Confirm that the pair of results are on a consistent moisture and O_2 concentration basis. Each integrated CEMS value should then be compared against the corresponding average PTM value. If the CO concentration measured by the CEMS is normalized to a specified diluent concentration, the PTM results shall be normalized to the same value.

2.1.6.4.5 Calculations. Summarize the results on a data sheet. Calculate the mean of the PTM values and calculate the arithmetic differences between the PTM and the CEMS data sets. The mean of the differences, standard deviation, confidence coefficient, and CEMS RA should be calculated using Equations 1 through 4.

2.1.7 Equations

2.1.7.1 Arithmetic Mean (|). Calculate, | of the difference of a data set using Equation 1.

$$\bar{d} = \frac{1}{n} \sum_{i=1}^{n} d_i \qquad \text{(Eq. 1)}$$

where: n = Number of data points.

$$\sum_{i=1}^{n} d_i = \text{Algebraic sum of the individual difference } d_i$$

When the mean of the differences of pairs of data is calculated, correct the data for moisture, if applicable.

2.1.7.2 Standard Deviation (S_d). Calculate S_d using Equation 2.

$$S_d = \sqrt{\frac{\sum_{i=1}^{n} d_i^2 - \frac{\sum_{i=1}^{n} d_i^2}{n}}{n-1}} \qquad \text{(Eq. 2)}$$

2.1.7.3 Confidence Coefficient (CC). Calculate the 2.5 percent error CC (one-tailed) using Equation 3.

$$CC = t_{0.975} \frac{S_d}{\sqrt{n}} \qquad \text{(Eq. 3)}$$

where:
$t_{0.975}$ = t-value (see Table 2.1-4).
Table 2.1-4 t-Values

n^a	$t_{0.975}$	n^a	$t_{0.975}$	n^a	$t_{0.975}$
2	12.706	7	2.447	12	2.201
3	4.303	8	2.365	13	2.179
4	3.182	9	2.306	14	2.160
5	2.776	10	2.662	15	2.145
6	2.571	11	2.228	16	2.131

[a]The values in this table are already corrected for n-1 degrees of freedom. Use n equal to the number of individual values.

2.1.7.4 Relative Accuracy. Calculate the RA of a set of data using Equation 4.
where:

$$RA = \frac{|\bar{d}| + |CC|}{\overline{PTM}} \; x\,100 \qquad \text{(Eq. 4)}$$

where:
$|\bar{d}|$ = Absolute value of the mean of the differences (Eq.1).
$|CC|$ = Absolute value of the confidence coefficient (Eq.3).
PTM = Average reference value.

2.1.7.5 Calibration Error. Calculate CE using Equation 5.

$$CE = \left| \frac{\bar{d}}{FS} \right| x\,100$$

(Eq. 5)

| = Mean difference between CEMS response and the known reference concentration.

2.1.8 Reporting
At a minimum, summarize in tabular form the results of the CD, RA, response time, and CE test, as appropriate. Include all data sheets, calculations, CEMS data records, and cylinder gas or reference material certifications.

2.1.9 Alternative Procedure
2.1.9.1 Alternative RA Procedure Rationale. Under some operating conditions, it may not be possible to obtain meaningful results using the RA test procedure. This includes conditions where consistent, very low CO emissions or low CO emissions interrupted periodically by short duration, high level spikes are observed. It may be appropriate in these circumstances to waive the PTM RA test and substitute the following procedure.
2.1.9.2 Alternative RA Procedure. Conduct a complete CEMS status check following the manufacturer's written instructions. The check should include operation of the light source, signal receiver, timing mechanism functions, data acquisition and data reduction functions, data recorders, mechanically operated functions (mirror movements, calibration gas valve operations, etc.), sample filters, sample line heaters, moisture traps, and other related functions of the CEMS, as applicable. All parts of the CEMS must be functioning properly before the RA requirement can be waived. The instruments must also have successfully passed the CE and CD requirements of the performance specifications. Substitution of the alternative procedure requires approval of the Department.

2.1.10 Quality Assurance (QA)
Proper calibration, maintenance, and operation of the CEMS is the responsibility of the owner or operator. The owner or operator must establish a QA program to evaluate and monitor CEMS performance. As a minimum, the QA program must include:
2.1.10.1 A daily calibration check for each monitor. The calibration must be adjusted if the check indicates the instrument's CD exceeds the specification established in section 2.1.4.5. The gases shall be injected as close to the probe as possible to provide a check of the entire sampling system. If an alternative calibration procedure is desired (e.g., direct injections or gas cells), subject to Department approval, the adequacy of this alternative procedure may be demonstrated during the initial 7-day CD test. Periodic comparisons of the two procedures are suggested.
2.1.10.2 A daily system audit. The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters), as appropriate.
2.1.10.3 A quarterly calibration error (CE) test. Quarterly RA tests may be substituted for the CE test when approved by the Department on a case-by-case basis.
2.1.10.4 An annual performance specification test.

2.1.11 References
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2. "Gaseous Continuous Emissions Monitoring Systems-Performance Specification Guidelines for SO_2, NO_x, CO_2, O_2, and TRS." U.S. Environmental Protection Agency OAQPS, ESED, Research Triangle Park, North Carolina 27711, EPA-450/3-82-026, October 1982.
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2.2 Performance Specifications for Continuous Emission Monitoring of Hydrocarbons for Incinerators, Boilers, and Industrial Furnaces Burning Hazardous Waste
2.2.1 Applicability and Principle
2.2.1.1 Applicability. These performance specifications apply to hydrocarbon (HC) continuous emission monitoring systems

(CEMSs) installed on incinerators, boilers, and industrial furnaces burning hazardous waste. The specifications include procedures which are intended to be used to evaluate the acceptability of the CEMS at the time of its installation or whenever specified in regulations or permits. The procedures are not designed to evaluate CEMS performance over an extended period of time. The source owner or operator is responsible for the proper calibration, maintenance, and operation of the CEMS at all times.

2.2.1.2 Principle. A gas sample is extracted from the source through a heated sample line and heated filter (except as provided by section 2.2.10) to a flame ionization detector (FID). Results are reported as volume concentration equivalents of propane. Installation and measurement location specifications, performance and equipment specifications, test and data reduction procedures, and brief quality assurance guidelines are included in the specifications. Calibration drift, calibration error, and response time tests are conducted to determine conformance of the CEMS with the specifications.

2.2.2 Definitions

2.2.2.1 Continuous Emission Monitoring System (CEMS). The total equipment used to acquire data, which includes sample extraction and transport hardware, analyzer, data recording and processing hardware, and software. The system consists of the following major subsystems:

2.2.2.1.1 Sample Interface. That portion of the system that is used for one or more of the following: Sample acquisition, sample transportation, sample conditioning, or protection of the analyzer from the effects of the stack effluent.

2.2.2.1.2 Organic Analyzer. That portion of the system that senses organic concentration and generates an output proportional to the gas concentration.

2.2.2.1.3 Data Recorder. That portion of the system that records a permanent record of the measurement values. The data recorder may include automatic data reduction capabilities.

2.2.2.2 Instrument Measurement Range. The difference between the minimum and maximum concentration that can be measured by a specific instrument. The minimum is often stated or assumed to be zero and the range expressed only as the maximum.

2.2.2.3 Span or Span Value. Full scale instrument measurement range.

2.2.2.4 Calibration Gas. A known concentration of a gas in an appropriate diluent gas.

2.2.2.5 Calibration Drift (CD). The difference in the CEMS output readings from the established reference value after a stated period of operation during which no unscheduled maintenance, repair, or adjustment takes place. A CD test is performed to demonstrate the stability of the CEMS calibration over time.

2.2.2.6 Response Time. The time interval between the start of a step change in the system input (e.g., change of calibration gas) and the time when the data recorder displays 95 percent of the final value.

2.2.2.7 Accuracy. A measurement of agreement between a measured value and an accepted or true value, expressed as the percentage difference between the true and measured values relative to the true value. For these performance specifications, accuracy is checked by conducting a calibration error (CE) test.

2.2.2.8 Calibration Error (CE). The difference between the concentration indicated by the CEMS and the known concentration of the cylinder gas. A CE test procedure is performed to document the accuracy and linearity of the monitoring equipment over the entire measurement range.

2.2.2.9 Performance Specification Test (PST) Period. The period during which CD, CE, and response time tests are conducted.

2.2.2.10 Centroidal Area. A concentric area that is geometrically similar to the stack or duct cross section and is no greater than 1 percent of the stack or duct cross-sectional area.

2.2.3 Installation and Measurement Location Specifications

2.2.3.1 CEMS Installation and Measurement Locations. The CEMS shall be installed in a location in which measurements representative of the source's emissions can be obtained. The optimum location of the sample interface for the CEMS is determined by a number of factors, including ease of access for calibration and maintenance, the degree to which sample conditioning will be required, the degree to which it represents total emissions, and the degree to which it represents the combustion situation in the firebox. The location should be as free from in-leakage influences as possible and reasonably free from severe flow disturbances. The sample location should be at least two equivalent duct diameters downstream from the nearest control device, point of pollutant generation, or other point at which a change in the pollutant concentration or emission rate occurs and at least 0.5 diameter upstream from the exhaust or control device. The equivalent duct diameter is calculated as per 40 CFR part 60, Appendix A, method 1, section 2.1. If these criteria are not achievable or if the location is otherwise less than optimum, the possibility of stratification should be investigated as described in section 2.2.3.2. The measurement point shall be within the centroidal area of the stack or duct cross section.

2.2.3.2 Stratification Test Procedure. Stratification is defined as a difference in excess of 10 percent between the average concentration in the duct or stack and the concentration at any point more than 1.0 meter from the duct or stack wall. To determine whether effluent stratification exists, a dual probe system should be used to determine the average effluent concentration while measurements at each traverse point are being made. One probe, located at the stack or duct centroid, is used as a stationary reference point to indicate the change in effluent concentration over time. The second probe is used for sampling at the traverse points specified in 40 CFR part 60 Appendix A, method 1. The monitoring system samples sequentially at the reference and traverse points throughout the testing period for five minutes at each point.

2.2.4 CEMS Performance and Equipment Specifications

If this method is applied in highly explosive areas, caution and care shall be exercised in choice of equipment and installation.

2.2.4.1 Flame Ionization Detector (FID) Analyzer. A heated FID analyzer capable of meeting or exceeding the requirements of these specifications. Heated systems shall maintain the temperature of the sample gas between 150 EC (300 EF) and 175 EC (350 EF) throughout the system. This requires all system components such as the probe, calibration valve, filter, sample lines, pump, and the FID to be kept heated at all times such that no moisture is condensed out of the system.

Note: As specified in the regulations, unheated HC CEMs may be considered an acceptable interim alternative monitoring technique. For additional notes, see section 2.2.10. The essential components of the measurement system are described below:

2.2.4.1.1 Sample Probe. Stainless steel, or equivalent, to collect a gas sample from the centroidal area of the stack cross-section.
2.2.4.1.2 Sample Line. Stainless steel or Teflon tubing to transport the sample to the analyzer.
Note: Mention of trade names or specific products does not constitute endorsement by the Environmental Protection Agency or South Carolina Department of Health and Environmental Control.
2.2.4.1.3 Calibration Valve Assembly. A heated three-way valve assembly to direct the zero and calibration gases to the analyzer is recommended. Other methods, such as quick-connect lines, to route calibration gas to the analyzers are applicable.
2.2.4.1.4 Particulate Filter. An in-stack or out-of-stack sintered stainless steel filter is recommended if exhaust gas particulate loading is significant. An out-of-stack filter must be heated.
2.2.4.1.5 Fuel. The fuel specified by the manufacturer (e.g., 40 percent hydrogen/60 percent helium, 40 percent hydrogen/60 percent nitrogen gas mixtures, or pure hydrogen) should be used.
2.2.4.1.6 Zero Gas. High purity air with less than 0.1 parts per million by volume (ppm) HC as methane or carbon equivalent or less than 0.1 percent of the span value, whichever is greater.
2.2.4.1.7 Calibration Gases. Appropriate concentrations of propane gas (in air or nitrogen). Preparation of the calibration gases should be done according to the procedures in EPA Protocol 1. In addition, the manufacturer of the cylinder gas should provide a recommended shelf life for each calibration gas cylinder over which the concentration does not change by more than ∀ 2 percent from the certified value.
2.2.4.2 CEMS Span Value. 100 ppm propane.
2.2.4.3 Daily Calibration Gas Values. The owner or operator must choose calibration gas concentrations that include zero and high-level calibration values.
2.2.4.3.1 The zero level may be between 0 and 20 ppm (zero and 20 percent of the span value).
2.2.4.3.2 The high-level concentration shall be between 50 and 90 ppm (50 and 90 percent of the span value).
2.2.4.4 Data Recorder Scale. The strip chart recorder, computer, or digital recorder must be capable of recording all readings within the CEMS's measurement range and shall have a resolution of 0.5 ppm (0.5 percent of span value).
2.2.4.5 Response Time. The response time for the CEMS must not exceed 2 minutes to achieve 95 percent of the final stable value.
2.2.4.6 Calibration Drift. The CEMS must allow the determination of CD at the zero and high-level values. The CEMS calibration response must not differ by more than ∀ 3 ppm (∀ 3 percent of the span value) after each 24-hour period of the 7-day test at both zero and high levels.
2.2.4.7 Calibration Error. The mean difference between the CEMS and reference values at all three test points listed below shall be no greater than 5 ppm (∀ 5 percent of the span value).
2.2.4.7.1 Zero Level. Zero to 20 ppm (0 to 20 percent of span value).
2.2.4.7.2 Mid-Level. 30 to 40 ppm (30 to 40 percent of span value).
2.2.4.7.3 High-Level. 70 to 80 ppm (70 to 80 percent of span value).
2.2.4.8 Measurement and Recording Frequency. The sample to be analyzed shall pass through the measurement section of the analyzer without interruption. The detector shall measure the sample concentration at least once every 15 seconds. An average emission rate shall be computed and recorded at least once every 60 seconds.
2.2.4.9 Hourly Rolling Average Calculation. The CEMS shall calculate every minute an hourly rolling average, which is the arithmetic mean of the 60 most recent 1-minute average values.
2.2.4.10 Retest. If the CEMS produces results within the specified criteria, the test is successful. If the CEMS does not meet one or more of the criteria, necessary corrections must be made and the performance tests repeated.

2.2.5 Performance Specification Test (PST) Periods
2.2.5.1 Pretest Preparation Period. Install the CEMS, prepare the PTM test site according to the specifications in section 2.2.3, and prepare the CEMS for operation and calibration according to the manufacturer's written instructions. A pretest conditioning period similar to that of the 7-day CD test is recommended to verify the operational status of the CEMS.
2.2.5.2 Calibration Drift Test Period. While the facility is operating under normal conditions, determine the magnitude of the CD at 24-hour intervals for seven consecutive days according to the procedure given in section 2.2.6.1. All CD determinations must be made following a 24-hour period during which no unscheduled maintenance, repair, or adjustment takes place. If the combustion unit is taken out of service during the test period, record the onset and duration of the downtime and continue the CD test when the unit resumes operation.
2.2.5.3 Calibration Error Test and Response Time Test Periods. Conduct the CE and response time tests during the CD test period.

2.2.6 Performance Specification Test Procedures
2.2.6.1 Calibration Drift Test.
2.2.6.1.1 Sampling Strategy. Conduct the CD test at 24-hour intervals for seven consecutive days using calibration gases at the two daily concentration levels specified in section 2.2.4.3. Introduce the two calibration gases into the sampling system as close to the sampling probe outlet as practical. The gas shall pass through all CEM components used during normal sampling. If periodic automatic or manual adjustments are made to the CEMS zero and calibration settings, conduct the CD test immediately before these adjustments, or conduct it in such a way that the CD can be determined. Record the CEMS response and subtract this value from the reference (calibration gas) value. To meet the specification, none of the differences shall exceed 3 ppm.
2.2.6.1.2 Calculations. Summarize the results on a data sheet. An example is shown in Figure 2.2-1. Calculate the differences between the CEMS responses and the reference values.
2.2.6.2 Response Time. The entire system including sample extraction and transport, sample conditioning, gas analyses, and the data recording is checked with this procedure.
2.2.6.2.1 Introduce the calibration gases at the probe as near to the sample location as possible. Introduce the zero gas into the system. When the system output has stabilized (no change greater than 1 percent of full scale for 30 sec), switch to monitor stack effluent and wait for a stable value. Record the time (upscale response time) required to reach 95 percent of the final stable value.
2.2.6.2.2 Next, introduce a high-level calibration gas and repeat the above procedure. Repeat the entire procedure three times and determine the mean upscale and downscale response times. The longer of the two means is the system response time.

2.2.6.3 Calibration Error Test Procedure.

2.2.6.3.1 Sampling Strategy. Challenge the CEMS with zero gas and EPA Protocol 1 cylinder gases at measurement points within the ranges specified in section 2.2.4.7.

2.2.6.3.1.1 The daily calibration gases, if Protocol 1, may be used for this test

SOURCE:	DATE:
MONITOR:	LOCATION:
SERIAL NUMBER:	SPAN:

	DAY	DATE	TIME	CALIBRATION VALUE	MONITOR RESPONSE	DIFFERENCE	PERCENT OF SPAN*
ZERO/ LOW LEVEL	1						
	2						
	3						
	4						
	5						
	6						
	7						
HIGH LEVEL	1						
	2						
	3						
	4						
	5						
	6						
	7						

*Acceptance Criteria : # 3% Of span each day for seven days.

Figure 2.2-1 Calibration Drift Determination

2.2.6.3.1.2 Operate the CEMS as nearly as possible in its normal sampling mode. The calibration gas should be injected into the sampling system as close to the sampling probe outlet as practical and shall pass through all filters, scrubbers, conditioners, and other monitor components used during normal sampling. Challenge the CEMS three non-consecutive times at each measurement point and record the responses. The duration of each gas injection should be for a sufficient period of time to ensure that the CEMS surfaces are conditioned.

2.2.6.3.2 Calculations. Summarize the results on a data sheet. An example data sheet is shown in Figure 2.2-2. Average the difference between the instrument response and the certified cylinder gas value for each gas. Calculate three CE results according to Equation 1. No confidence coefficient is used in CE calculations.

2.2.7 Equations

2.2.7.1 Calibration Error. Calculate CE using Equation I.

$$CE = \left| \frac{\bar{d}}{FS} \right| x\,100 \qquad (Eq.1)$$

where:

| = Mean difference between CEMS response and the known reference concentration.

2.2.8 Reporting

At a minimum, summarize in tabular form the results of the CD, response time, and CE test, as appropriate. Include all data sheets, calculations, CEMS data records, and cylinder gas or referenced material certifications.

SOURCE:	DATE:
MONITOR:	LOCATION:
SERIAL NUMBER:	SPAN:

RUN NUMBER	CALIBRATION VALUE	MONITOR RESPONSE	DIFFERENCE		
			Zero/Low	Mid	High
1 - Zero					
2 - Mid					
3 - High					
4 - Mid					
5 - Zero					
6 - High					
7 - Zero					
8 - Mid					
9 - High					
MEAN DIFFERENCE=			%	%	%
CALIBRATION ERROR=					

Figure 2.2-2 Calibration Error Determination

2.2.9 Quality Assurance (QA)
Proper calibration, maintenance, and operation of the CEMS is the responsibility of the owner or operator. The owner or operator must establish a QA program to evaluate and monitor CEMS performance. As a minimum, the QA program must include:
2.2.9.1 A daily calibration check for each monitor. The calibration must be adjusted if the check indicates the instrument's CD exceeds 3 ppm. The gases shall be injected as close to the probe as possible to provide a check of the entire sampling system. If an alternative calibration procedure is desired (e.g., direct injections or gas cells), subject to Administrator approval, the adequacy of this alternative procedure may be demonstrated during the initial 7-day CD test. Periodic comparisons of the two procedures are suggested.
2.2.9.2 A daily system audit. The audit must include a review of the calibration check data, an inspection of the recording system, an inspection of the control panel warning lights, and an inspection of the sample transport and interface system (e.g., flowmeters, filters), as appropriate.
2.2.9.3 A quarterly CE test. Quarterly RA tests may be substituted for the CE test when approved by the Department on a case-by-case basis.
2.2.9.4 An annual performance specification test.

2.2.10 Alternative Measurement Technique
The regulations allow gas conditioning systems to be used in conjunction with unheated HC CEMs during an interim period. This gas conditioning may include cooling to not less than 40 EF and the use of condensate traps to reduce the moisture content of sample gas entering the FID to less than 2 percent. The gas conditioning system, however, must not allow the sample gas to bubble through the condensate as this would remove water soluble organic compounds. All components upstream of the conditioning system should be heated as described in section 2.2.4 to minimize operating and maintenance problems.

2.2.11 References
1. Measurement of Volatile Organic Compounds-Guideline Series. U.S. Environmental Protection Agency, Research Triangle Park, North Carolina, 27711, EPA-450/2-78-041, June 1978.
2. Traceability Protocol for Establishing True Concentrations of Gases Used for Calibration and Audits of Continuous Source Emission Monitors (Protocol No. 1). U.S. Environmental Protection Agency ORD/EMSL, Research Triangle Park, North Carolina, 27711, June 1978.
3. Gasoline Vapor Emission Laboratory Evaluation-Part 2. U.S. Environmental Protection Agency, OAQPS, Research Triangle Park, North Carolina, 27711, EMB Report No. 76-GAS-6, August 1975.

Section 3.0 Sampling And Analytical Methods
NOTE: The sampling and analytical methods to the BIF manual are published in "test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11.

Section 4.0 Procedure For Estimating The Toxicity Equivalency Of Chlorinated Dibenzo-P-Dioxin And Dibenzofuran Congeners
PCDDs and PCDFs must be determined using the method given in section 3.4 of this document. In this method, individual congeners or homologues[1] are measured and then summed to yield a total PCDD/PCDF value. No toxicity factors are specified in the method to compute risks from such emissions.
[1]The term "congener" refers to any one particular member of the same chemical family; e.g., there are 75 congeners of chlorinated dibenzo-p-dioxins. The term "homologue" refers to a group of structurally related chemicals that have the same degree of chlorination. For example, there are eight homologues of CDs, monochlorinated through octachlorinated. Dibenzo-p-dioxins and dibenzofurans that are chlorinated at the 2,3,7, and 8 positions are denoted as "2378" congeners, except when 2,3,7,8-TCDD is uniquely referred to: e.g., 1,2,3,7,8-PeCDF and 2,3,4,7,8- PeCDF are both referred to as "2378-PeCDFs."

For the purpose of estimating risks posed by emissions from boilers and industrial furnaces, however, specific congeners and homologues must be measured using the specified method and then multiplied by the assigned toxicity equivalence factors (TEFs), using procedures described in "Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs and CDFs) and 1989 Update," EPA/625/3-89/016, March 1989. The resulting 2,3,7,8-TCDD equivalents value is used in the subsequent risk calculations and modeling efforts as discussed in the BIF final rule. The procedure for calculating the 2,3,7,8-TCDD equivalent is as follows:

1. Using method 23, determine the concentrations of 2,7,3,8-congeners of various PCDDs and PCDFs in the sample.
2. Multiply the congener concentrations in the sample by the TEF listed in Table 4.0-1 to express the congener concentrations in terms of 2,3,7,8-TCDD equivalent. Note that congeners not chlorinated at 2,3,7, and 8 positions have a zero toxicity factor in this table.
3. Add the products obtained in step 2, to obtain the total 2,3,7,8-TCDD equivalent in the sample.

Sample calculations are provided in EPA document No. EPA/625/3-89/016, March 1989, which can be obtained from the EPA, ORD Publications Office, Cincinnati, Ohio (Phone no. 513-569-7562).

Table 4.0-1. 2,3,7,8-TCDD Toxicity Equivalence Factors (TEFs)[1]

Compound	I-TEFs, 89
Mono-, Di-, and TriCDDs	0
2,3,7,8-TCDD	1
Other TCDDs	0
2,3,7,8-PeCDD	0.5
Other PeCDDs	0
2,3,7,8-HxCDD	0.1
Other HxCDDs	0
2,3,7,8-HpCDD	0.01
Other HpCDDs	0
OCDD	0.001
Mono-, Di-, and TriCDFs	0
2,3,7,8-TCDF	0.1
Other TCDFs	0
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
Other PeCDFs	0
2378-HxCDFs	0.1
Other HxCDFs	0
2378-HpCDFs	0.01
Other HpCDFs	0
OCDF	0.001

Reference: Adapted from NATO/CCMS, 1988a.

[1]Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-Dioxins and Dibenzofurans (CDDs and CDFs) 1989 Update EPA/625/3-89/016, March 1989.

Section 5.0 Hazardous Waste Combustion Air Quality Screening Procedure

The HWCAQSP is a combined calculation/reference table approach for conservatively estimating short-term and annual average facility impacts for stack emissions. The procedure is based on extensive short-term modeling of 11 generic source types and on a set of adjustment factors for estimating annual average concentrations from short-term concentrations. Facility impacts may be determined based on the selected worst-case stack or on multiple stacks, in which the impacts from each stack are estimated separately and then added to produce the total facility impact. This procedure is most useful for facilities with multiple stacks, large source-to-property boundary distances, and complex terrain between 1 and 5 km from the facility. To ensure a sufficient degree of conservatism, the HWCAQSP may not be used if any of the five screening procedure limitations listed below are true:

! The facility is located in a narrow valley less than 1 km wide;
! The facility has a stack taller than 20 m and is located such that the terrain rises to the stack height within 1 km of the facility;
! The facility has a stack taller than 20 m and is located within 5 km of the shoreline of a large body of water;
! The facility property line is within 200 m of the stack and the physical stack height is less than 10 m; or
! On-site receptors are of concern, and stack height is less than 10 m.

If any of these criteria are met or the Department determines that this procedure is not appropriate, then detailed site-specific modeling or modeling using the "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources," EPA - 450/4-88-010, Office of Air Quality Planning and Standards, August 1988, is required. Detailed site-specific dispersion modeling must conform to the EPA "Guidance on Air Quality Models (Revised)", EPA 450/2-78-027R, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, July 1986. This document provides guidance on both the proper selection and regulatory application of air quality models.

Introduction

The Hazardous Waste Combustion Air Quality Screening Procedure (HWCAQSP) (also referred to hereafter as "the screening procedure" or "the procedure") provides a quick, easy method for estimating maximum (hourly) and annual average ambient air impacts associated with the combustion of hazardous waste. The methodology is conservative in nature and estimates dispersion coefficients[1] based on facility-specific information.

[1]The term dispersion coefficient refers to the change in ambient air concentration ($\mu g/m^3$) resulting from a source with an emission rate of 1 g/sec.

The screening procedure can be used to determine emissions limits at sites where the nearest meteorological (STAR) station is not representative of the meteorology at the site. If the screen shows that emissions from the site are adequately protective, then the need to collect site-specific meteorological data can be eliminated. The screening procedure is generally most helpful for facilities meeting one or more of the following conditions:

! Multiple stacks with substantially different release specifications (e.g., stack heights differ by >50 percent, exit temperatures differ by >50 EK, or the exit flow rates differ by more than a factor of 2),

! Terrain located between 1 km and 5 km from the site increases in elevation by more than the physical height of the shortest stack (i.e., the facility is located in complex terrain), or

! Significant distance between the facility's stacks and the site boundary [guidance on determining whether a distance is "significant" is provided in Step 6(B) of the procedure].

Steps 1 through 9 of the screening procedure present a simplified method for determining emissions based on the use of the "worst-case" stack. If the simplified method shows that desired feed rates result in emissions that exceed allowable limits for one or more pollutants, a refined analysis to examine the emissions from each stack can be conducted. This multiple-stack method is presented in Step 10.

The steps involved in screening methodology are as follows:

Step 1. Define Source Characteristics
Step 2. Determine the Applicability of the Screening Procedure
Step 3. Select the Worst-Case Stack
Step 4. Verify Good Engineering Practice (GEP) Criteria
Step 5. Determine the Effective Stack Height and Terrain-Adjusted Effective Stack Height
Step 6. Classify the Site as Urban or Rural
Step 7. Determine Maximum Dispersion Coefficients
Step 8. Estimate Maximum Ambient Air Concentrations
Step 9. Determine Compliance With Regulatory Limits
Step 10. Multiple Stack Method

Step 1: Define Source Characteristics

Provide the following source data:[2]

[2]Worksheet space is provided for three stacks. If the facility has additional stacks, copy the form and revise stack identification numbers for 4, 5, etc.

Stack Data:	Stack No. 1	Stack No. 2	Stack No. 3
Physical stack height (m)	---	---	---
Exhaust temperature (EK)	---	---	---
Flow rate (m^3/sec)	---	---	---

Nearby Building Dimensions

Consider all buildings within five building heights or five maximum projected widths of the stack(s). For the building with the greatest height, fill in the spaces below.

Building Height (m) _____
Maximum projected building width (m) _____

Nearby Terrain Data

Determine maximum terrain rise for the following three distance ranges from the facility (not required if the highest stack is less than 10 m in height):

_____(m) _____(m) _____(m)
0-0.5 km 0-2.5 km 0-5 km

Distance from facility to nearest shoreline (km) _____
Valley width (km) _____

Step 2: Determine the Applicability of the Screening Procedure
Fill in the following data:

	Yes	No
Is the facility in a valley < km in width?	____	____
Is the terrain rise within 1 km of the facility greater than the physical stack height of the tallest stack? (Only applies to stacks #20 meters in height)	_____	_____
Is the distance to the nearest shoreline <5 km? (Only applies to facilities with stacks #20 meters in height)	_____	_____
For the building listed in Step 1, is the closest property boundary <5 times the building height or <5 times the maximum projected building width? (Only applies to facilities with a stack height <2.5 times the building height)	_____	_____

If the answer is "no" to all the preceding questions, then the HWCAQSP is acceptable. If the answer to any question is "yes," the procedure is not acceptable.

Step 3: Select the Worst-Case Stack
If the facility has several stacks, a worst-case stack must be chosen to conservatively represent release conditions at the facility. Follow the steps below to identify the worst-case stack.:
Apply the following equation to each stack:

K = HVT

where:

K = an arbitrary parameter accounting for the relative influence of the stack height and plume rise.
H = Physical stack height (m)
V = Flow rate (m^3/sec)
T = Exhaust temperature (EK)

Complete the following table to compute the "K" value for each stack:

Stack No.	Stack height (m)	X	Flow rate (m^3/sec)	X	Exit temp (EK)	=	K
1		X		X		=	
2		X		X		=	
3		X		X		=	

Select the stack with the lowest "K" value. This is the worst-case stack that will be used for Steps 4 through 9.
Worst-Case Stack is identified as Stack No.

Step 4: Verify Good Engineering Practice (GEP) Criteria
Confirm that the selected worst-case stack meets Good Engineering Practice (GEP) criteria. The stack height to be used in the subsequent steps of this procedure must not be greater than the

maximum GEP. Maximum and minimum GEP stack heights are defined as follows:

CEP (minimum) = H + (1.5 X L)

GEP (maximum) = greater of 65 m or

H + (1.5 X L)

where:

H = height of the building selected in Step 1 measured from ground level elevation at the base of the stack

L = the lesser dimension of the height or projected width of the building selected in Step 1

Record the following data for the worst-case stack:

Stack height (m) = _____

H(m) = _____

L(m) = _____

Then compute the following:

GEP (minimum) (m) = _____

GEP (maximum) (m) = _____

! If the physical height of the worst-case stack exceeds the maximum GEP, then use the maximum GEP stack height for the subsequent steps of this analysis;

! If the physical height of the worst-case stack is less than the minimum GEP, then use generic source number 11 as the selected source for further analysis and proceed directly to Step 6;

! If the physical height of the worst-case stack is between the minimum and maximum GEP, then use the actual physical stack height for the subsequent steps of this analysis.

Step 5: Determine the Effective Stack Height and the Terrain-Adjusted Effective Stack Height (TAESH)

The effective stack height is an important factor in dispersion modeling. The effective stack height is the physical height of the stack plus plume rise. As specified in Step 4, the stack height used to estimate the effective stack height must not exceed GEP requirements. Plume rise is a function of the stack exit gas temperature and flow rate.

In this analysis, the effective stack height is used to select the generic source that represents the dispersion characteristics of the facility. For facilities located in flat terrain and for all facilities with worst-case stacks less than or equal to 10 meters in height, generic source numbers are selected strictly on the basis of effective stack height. In all other cases, the effective stack height is further adjusted to take into account the terrain rise near the facility. This "terrain-adjusted effective stack height" (TAESH) is then used to select the generic source number that represents the dispersion characteristics of the facility. Follow the steps below to identify the effective stack height, the TAESH (where applicable), and the corresponding generic source number.

(A) Go to Table 5.0-1 and find the plume rise value corresponding to the stack temperature and exit flow rate for the worst-case stack determined in Step 3.

Plume rise =_____(m)

(B) Add the plume rise to the GEP stack height of the worst-case stack determined in Steps 3 and 4.

GEP stack height (m) + Plume rise (m) = Effective stack height (m)

_____ + _____ = _____

(C) Go to the first column of Table 5.0-2 and identify the range of effective stack heights that includes the effective stack height estimated in Step 5(B). Record the generic source number that corresponds to this range.

Generic source number = _____

(D) If the source is located in flat terrain[3], or if the generic source number identified in Step 5(C) above is 1 or 11 (regardless of terrain classification), use the generic source number determined in Step 5(C) and proceed directly to Step 6. Otherwise, continue to Step 5(E).

[3]The terrain is considered flat and terrain adjustment factors are not used if The maximum terrain rise within 5 km of the facility (see Step 1) is less than 10 percent of the physical stack height of the worst-case stack.

(E) For those situations where the conditions in Step 5(D) do not apply, the effective stack height must be adjusted for terrain. The TAESH for each distance range is computed by subtracting the terrain rise within the distance range from the effective stack height.[4]

[4]Refer to Step 1 for terrain adjustment data. Note that the distance from the source to the outer radii of each range is used. For example, for the range >0.5-2.5 km, the maximum terrain rise in the range 0.0-2.5 km is used.

Table 5.0-1. Estimated Plume Rise (in Meters) Based on Stack Exit Flow Rate and Gas Temperature

	Exhaust Temperature (EK)										
Flow rate (m^3/s)	<325	325-349	350-399	400-449	450-499	500-599	600-699	700-799	800-999	1000-1499	>1499
<0.5	0	0	0	0	0	0	0	0	0	0	0
0.5-0.9	0	0	0	0	0	0	0	0	1	1	1
1.0-1.9	0	0	0	0	1	1	2	3	3	3	4
2.0-2.9	0	0	1	3	4	4	6	6	7	8	9
3.0-3.9	0	1	2	5	6	7	9	10	11	12	13
4.0-4.9	1	2	4	6	8	10	12	13	14	15	17
5.0-7.4	2	3	5	8	10	12	14	16	17	19	21
7.5-9.9	3	5	8	12	15	17	20	22	22	23	24
10.0-12.4	4	6	10	15	19	21	23	24	25	26	27
12.5-14.9	4	7	12	18	22	23	25	26	27	28	29
15.0-19.9	5	8	13	20	23	24	26	27	28	29	31

20.0-24.9	6	10	17	23	25	27	29	30	31	32	34
25.0-29.9	7	12	20	25	27	29	31	32	33	35	36
30.0-34.9	8	14	22	26	29	31	33	35	36	37	39
35.0-39.9	9	16	23	28	30	32	35	36	37	39	41
40.0-49.9	10	17	24	29	32	34	36	38	39	41	42
50.0-59.9	12	21	26	31	34	36	39	41	42	44	46
60.0-69.9	14	22	27	33	36	39	42	43	45	47	49
70.0-79.9	16	23	29	35	38	41	44	46	47	49	51
80.0-89.9	17	25	30	36	40	42	46	48	49	51	54
90.0-99.9	19	26	31	38	42	44	48	50	51	53	56
100.0-119.9	21	26	32	39	43	46	49	52	53	55	58
120.0-139.9	22	28	35	42	46	49	52	55	56	59	61
140.0-159.9	23	30	36	44	48	51	55	58	59	62	65
160.0-179.9	25	31	38	46	50	54	58	60	62	65	67
180.0-199.9	26	32	40	48	52	56	60	63	65	67	70
>199.9	26	33	41	49	54	58	62	65	67	69	73

Table 5.0-2. Selection of Generic Source Number

Effective stack height (m)	Generic source No.
<10.0	1
10.0-14.9	2
15.0-19.9	3
20.0-24.9	4
25.0-30.9	5
31.0-41.9	6
42.0-52.9	7
53.0-64.9	8
65.0-122.9	9
113.0+	10
Downwash	11

Table 5.0-3. Classification of Land Use Types

Type[1]	Description	Urban or rural designation[2]
I1	Heavy Industrial	Urban
I2	Light/Moderate Industrial	Urban
Cl	Commercial	Urban
R1	Common Residential (Normal Easements)	Rural
R2	Compact Residential (Single Family)	Urban
R3	Compact Residential (Multi-Family)	Rural
R4	Estate Residential (Multi-Acre Plots)	Rural
A1	Metropolitan Natural	Rural
A2	Agricultural	Rural
A3	Undeveloped (Grasses/Weeds)	Rural
A4	Undeveloped (Heavily Wooded)	Rural
A5	Water Surfaces	Rural

[1]EPA, Guideline on Air Quality Models (Revised), EPA-450/2-78-027R, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, July, 1986.

[2]Auer, August H. Jr., "Correlation of Land Use and Cover with meteorological Anomalies," Journal of Applied Meteorology, pp. 636-643, 1978.

Distance range (km)	Effective stack-height (m) [see step 5(B)]	-	Maximum terrain-rise (m) (see step 1)	=	TAESH(m)
0.0-0.5		-		=	
>0.5-2.5		-		=	
>2.5-5.0		-		=	

If the terrain rise for any of the distance ranges is greater than the effective stack height, set the TAESH equal to zero and use generic source number 1 for that distance range.
Record the generic source numbers from Table 5.0-2 based on each of the TAESH values.

Distance range (km)	Generic source No. (after terrain adjustment)
0.0-0.5 --	
>0.5-2.5 -	
>2.5-5.0 -	

Step 6: Classify the Site as Urban or Rural
(A) Classify the land use near the facility as either urban or rural by determining the percentage of urban land use types (as defined in Table 3; for
further guidance see the footnoted references) that fall within 3 km of the facility.[5]

[5]The delineation of urban and rural areas, can be difficult for the residential-type areas listed in Table 5.0-3. The degree of resolution in Table 5.0-3 for residential areas often cannot be identified without conducting site area inspections. This process can require extensive analysis, which, for many applications, can be greatly streamlined without sacrificing confidence in selecting the appropriate urban or rural classification. The fundamental simplifying assumption is based on the premise that many applications will have clear-cut urban/rural designations, i.e., most will be in rural settings that can be definitively characterized through a review of aerial photographs, zoning maps, or U.S. Geological Survey topographical maps.

Method Used to Estimate Percent Urban Land Use:	Visual	Planimeter
	--	--
Estimated Percentages	Urban	Rural
	--	--

If the urban land use percentage is less than or equal to 30 percent based on a visual estimate, or 50 percent based on a planimeter, the local land use is considered rural. Otherwise, the local land use is considered urban.

Classification Urban Rural
(check applicable space) _____ _____.

(B) Based on the TAESH and the urban/rural classification of surrounding land use, use the following table to determine the threshold distance between any stack and the nearest facility boundary.

Terrain adjusted effective stack height range (m)	Distance (m)	
	Urban	Rural
1-9.9	200	200
10-14.9	200	250
15-19.9	200	250
20-24.9	200	350
25-30.9	200	450
31-41.9	200	550
42-52.9	250	800
53-64.9	300	1000
65-112.9	400	1200
113+	700	2500

Record the following information:
Threshold distance from the table (m):_____
Minimum distance from any stack to property boundary (m):____
If the minimum distance between any stack and the nearest facility boundary is greater than the threshold distance, the surrounding buffer distance is considered significant and the facility is likely to benefit from use of the HWCAQSP relative to the Tier I and II limits (see discussion of benefits from using HWCAQSP in Introduction section).

Step 7: Determine Maximum Dispersion Coefficients
(A) Determine maximum average hourly dispersion coefficients. Based on the results of Step 6(A), select either Table 5.0-4 (urban) or Table 5.0-5 (rural) to determine the maximum average hourly dispersion coefficient.[6] For flat terrain [defined in Step 5(D)] and for all sites with generic source numbers 1 or 11, use Step 7(A) (1). For rolling or complex terrain (excluding generic sources numbers 1 and 11), use Step 7(A) (2).

[6]For the distance range 6 to 20 kilometers, generic source number 1 is used to conservatively represent the maximum dispersion coefficient.

(1) Search down the appropriate generic source number column [based on Step 5(C)], beginning at the minimum fenceline distance listed in Step 6(B).[7] Record the maximum average hourly dispersion coefficient encountered.

[7]Exclude all distances that are closer to the facility than the property boundary. For example, if the actual distance to the nearest property boundary is 265 meters, begin at the 300 meter distance in Tables 5.0-4 and 5.0-5.

Maximum Average Hourly Dispersion
Coefficient = _____ ($\mu g/m^3/g/sec$)

(2) For each of the three distance-based generic source numbers listed in Step 5(E), search down the appropriate generic source number columns, beginning at the minimum fenceline distance listed in Step 6(B). Note that different columns may be used for each of the three distance ranges if there is a need for terrain adjustment. Record the maximum dispersion coefficient for each generic source number.

Distance range (km)	Generic source No. [from Step 5(E)]	Maximum dispersion coefficient ($\mu g/m^3/m/sec$)
0.0-0.5	--	--
>0.5-2.5	--	--
>2.5-5.0	--	--
>5.0-20.0	--	--

Table 5.0-4.-ISCST Predicted Maximum Concentrations ($\mu g/m^3$)[a] for Hazardous Waste Combustors Using Urban Conditions

Distance (KM)	Generic Source #1 (<10M)	Generic Source #2 (10M)	Generic Source #3 (15M)	Generic Source #4 (20M)	Generic Source #5 (25M)	Generic Source #6 (31M)	Generic Source #7 (42M)	Generic Source #8 (53M)	Generic Source #9 (65M)	Generic Source #10 (113M)	Generic Source #11 (Down-wash)
0.20	680.1	517.5	368.7	268.7	168.5	129.8	63.4	30.1	18.4	1.6	662.3
0.25	521.9	418.2	303.7	232.6	163.0	124.2	67.6	38.5	19.8	3.2	500.0
0.30	407.7	351.7	256.2	199.0	147.0	118.3	63.5	41.5	25.0	4.2	389.3
0.35	326.2	304.2	221.6	172.7	130.2	107.9	60.0	40.5	27.3	5.4	311.9
0.40	268.5	268.5	195.6	152.5	115.7	97.1	59.6	37.8	27.4	5.8	268.5
0.45	240.8	240.7	175.4	136.7	103.9	87.6	56.6	37.2	26.3	5.8	240.8
0.50	218.5	218.5	159.2	124.1	94.4	79.7	52.9	36.7	24.7	5.8	218.5
0.55	200.3	200.3	145.9	113.8	86.5	73.1	49.2	35.4	24.5	6.6	200.3

0.60	185.1	185.1	134.9	105.1	80.0	67.6	45.8	33.8	24.3	7.1	185.1
0.65	172.2	172.2	125.5	97.8	74.4	62.9	42.7	32.0	23.7	7.4	172.2
0.70	161.2	161.2	117.4	91.6	69.6	58.9	40.1	30.2	22.9	7.5	161.2
0.75	151.6	151.6	110.5	86.1	65.5	55.4	37.7	28.6	22.0	7.5	151.6
0.80	143.2	143.2	104.4	81.4	61.9	52.3	35.6	27.1	21.1	7.4	143.2
0.85	135.8	135.8	99.0	77.2	58.7	49.6	33.8	25.7	20.2	7.2	135.8
0.90	129.2	129.2	94.2	73.4	55.8	47.2	32.1	24.5	19.3	7.0	129.2
0.95	123.3	123.3	89.9	70.1	53.3	45.0	30.7	23.4	18.5	6.8	123.3
1.00	118.0	118.0	86.0	67.0	51.0	43.1	29.4	22.4	17.7	6.5	118.0
1.10	108.8	108.0	79.3	61.8	47.0	39.7	27.1	20.6	16.4	6.5	108.8
1.20	101.1	101.1	73.7	57.4	43.7	36.9	25.2	19.2	15.2	6.4	101.1
1.30	94.6	94.6	68.9	53.7	40.9	34.5	23.5	18.0	14.2	6.3	94.6
1.40	89.0	89.0	64.8	50.6	38.5	32.5	22.1	16.9	13.4	6.1	89.0
1.50	84.1	84.1	61.3	47.8	36.3	30.7	20.9	16.0	12.7	5.9	84.1
1.60	79.8	79.8	58.2	45.4	34.5	29.2	19.9	15.2	12.0	5.6	79.8
1.70	76.0	76.0	55.4	43.2	32.9	27.8	18.9	14.4	11.4	5.4	76.0
1.80	72.7	72.7	53.0	41.3	31.4	26.5	18.1	13.8	10.9	5.2	72.7
1.90	69.6	69.6	50.7	39.6	30.1	25.4	17.3	13.2	10.5	5.0	69.6
2.00	66.9	66.9	48.8	38.0	28.9	24.4	16.7	12.7	10.1	4.8	66.9
2.25	61.1	61.1	44.5	34.7	26.4	22.3	15.2	11.6	9.2	4.4	61.1
2.50	56.4	56.4	41.1	32.1	24.4	20.6	14.0	10.7	8.5	4.1	56.4
2.75	52.6	52.6	38.3	29.9	22.7	19.2	10.0	10.0	7.9	3.8	52.6
3.00	49.3	49.3	35.9	28.0	21.3	18.0	9.4	9.4	7.4	3.6	49.3
4.00	40.2	40.2	29.3	22.8	17.4	14.7	7.6	7.6	6.1	2.9	40.2
5.00	34.5	34.5	25.2	19.6	14.9	12.6	6.6	6.6	5.2	2.5	34.5
6.00	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
7.00	27.8	27.8	27.8	37.8	27.8	27.8	27.8	27.8	27.8	27.8	27.8
8.00	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
9.00	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
10.00	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3	22.3
15.00	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
20.00	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.01	15.0

[a]Based on a 1 Gram/Second Emission Rate

Table 5.0-5.-ISCST Predicted Maximum Concentrations (μ g/m^3)[a] for Hazardous Waste Combustors Using Rural Conditions

Distance (KM)	Generic Source #1 (<10M)	Generic Source #2 (10M)	Generic Source #3 (15M)	Generic Source #4 (20M)	Generic Source #5 (25M)	Generic Source #6 (31M)	Generic Source #7 (42M)	Generic Source #8 (53M)	Generic Source #9 (65M)	Generic Source #10 (113M)	Generic Source #11 (Down-wash)
0.20	1771.1	670.3	308.6	176.8	102.8	76.5	28.0	10.1	3.5	0.0	1350.8
0.25	1310.6	678.4	316.9	183.6	104.6	71.8	38.0	17.6	7.9	0.2	1227.3
0.30	1002.3	629.2	303.4	199.1	100.4	75.0	39.7	24.0	12.6	0.8	1119.3
0.35	798.4	569.6	282.3	200.7	117.0	71.1	36.3	25.9	16.8	1.9	1023.8
0.40	656.9	516.5	278.7	194.4	125.2	82.7	25.3	24.6	18.1	3.1	938.9
0.45	621.5	471.1	277.6	184.3	127.5	89.7	35.6	21.7	17.6	4.3	851.8
0.50	633.5	432.4	272.0	172.7	125.7	92.9	34.4	21.6	15.9	5.5	787.8
0.55	630.1	399.2	263.8	168.0	121.6	93.3	38.6	22.1	13.6	6.5	730.6
0.60	616.6	370.4	254.0	169.1	116.2	91.8	42.6	21.7	14.3	6.7	676.4
0.65	596.7	345.4	243.6	168.1	110.3	89.2	45.3	20.9	14.7	6.4	633.4
0.70	573.2	323.4	232.9	165.6	104.5	85.8	47.0	23.3	14.6	5.9	592.0
0.75	546.9	304.0	222.3	162.0	98.8	82.2	47.7	25.5	14.3	5.5	554.6
0.80	520.9	286.8	212.1	157.7	98.8	78.5	47.8	27.1	13.8	5.1	522.1
0.85	495.7	271.5	202.4	153.0	99.0	74.9	47.4	28.3	15.0	4.7	491.8
0.90	471.5	257.8	193.3	148.1	98.6	71.4	46.6	29.1	16.3	4.5	464.2
0.95	448.5	245.4	184.7	143.1	97.6	72.3	45.6	29.6	17.3	4.2	438.9
1.00	426.8	234.2	176.8	138.1	96.3	72.6	44.4	29.8	18.2	4.0	415.8

Distance (KM)	Generic Source #1 (<10M)	Generic Source #2 (10M)	Generic Source #3 (15M)	Generic Source #4 (20M)	Generic Source #5 (25M)	Generic Source #6 (31M)	Generic Source #7 (42M)	Generic Source #8 (53M)	Generic Source #9 (65M)	Generic Source #10 (113M)	Generic Source #11 (Down-wash)
1.10	387.5	214.7	162.5	128.2	91.9	71.1	41.8	29.5	19.3	3.9	375.0
1.20	353.5	198.4	150.3	119.3	87.4	69.1	39.1	28.6	19.8	4.1	340.3
1.30	323.0	189.6	139.9	111.5	82.9	66.7	36.6	27.5	19.8	4.2	310.4
1.40	296.6	182.2	130.8	104.5	78.7	64.2	34.3	26.2	19.5	4.2	284.6
1.50	273.3	174.6	122.9	98.3	74.7	61.6	32.3	24.9	19.0	4.2	262.0
1.60	252.7	167.0	115.9	92.8	71.0	59.1	31.8	23.6	18.4	4.2	242.2
1.70	234.5	159.6	109.7	87.9	67.6	56.7	31.6	22.5	17.7	4.3	224.7
1.80	218.3	152.4	104.1	83.5	64.4	54.3	31.3	21.4	17.0	4.5	211.9
1.90	203.7	145.6	99.1	79.5	61.5	52.1	30.9	20.4	16.3	4.8	198.4
2.00	190.7	139.1	94.6	75.9	58.8	50.0	30.4	19.5	15.7	5.1	186.3
2.25	164.4	124.5	85.1	68.3	53.0	45.4	28.9	18.1	14.2	5.4	160.8
2.50	143.7	112.1	77.3	62.1	48.2	41.4	27.2	17.9	12.9	5.5	140.7
2.75	127.0	101.5	70.9	56.9	38.1	38.1	25.6	17.5	11.8	5.4	124.5
3.00	113.4	92.4	65.6	52.6	35.2	35.2	24.0	17.0	11.2	5.2	112.5
4.00	78.8	67.3	50.6	40.6	27.2	27.2	29.0	14.3	10.4	4.3	78.3
5.00	59.1	54.6	41.4	33.2	22.2	22.2	15.6	12.0	9.3	3.5	58.8
6.00	56.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7	46.7
7.00	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4	40.4
8.00	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8
9.00	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2	32.2
10.00	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
15.00	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5	20.5
20.00	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9	15.9

[a]Based on a 1 Gram/Second Emission Rate

(B) Determine annual/hourly ratio for rural analysis. The maximum average annual dispersion coefficient is approximated by multiplying the maximum hourly dispersion coefficient (identified in Step 7(A)) by the appropriate ratio selection from Table 5.0-6. The generic source number(s) [from Steps 5(C) or 5(E)], urban/rural designation (from Step 6), and the terrain type are used to select the appropriate scaling factor. Use the noncomplex terrain designation for all sources located in flat terrain, for all sources where the physical stack height of the worst-case stack is less than or equal to 10 m, for all sources where the worst-case stack is less than the minimum GEP, and for those sources where all of the TAESH values in Step 5(E) are greater than zero. Use the complex terrain designation in all other situations.

(C) Determine maximum average annual dispersion coefficient. The maximum average annual dispersion coefficient is determined by multiplying the maximum hourly dispersion coefficient (Step 7(A)) by its corresponding annual/hourly ratio (Step 7(B)).

Terrain	Distance from stack (m)	Generic source No.	Maximum hourly dispersion coefficient ($\mu g/m^3/g/sec$)	Annual hourly ratio	Maximum annual dispersion coefficient ($\mu g/m^3/g/sec$)[1]
Flat	0-20.0				
	0-0.5				
	>0.5-2.5				
Rolling or Complex	>2.5-5.0>5.0-20.0				

[1]Maximum hourly dispersion coefficient times annual/hourly ratio.

Step 8: Estimate Maximum Ambient Air Concentrations-see procedures prescribed in subpart H of 40 CFR part 266.

Step 9: Determine Compliance with Regulatory Limits-see procedures prescribed in subpart H of 40 CFR part 266.

Step 10: Multiple Stack Method (Optional)

This option is a special case procedure that may be helpful when (1) the facility exceeded the regulatory limits for one or more pollutants, as detailed in Step 9, and (2) the facility has multiple stacks with substantially different emission rates and effective release heights. Only those pollutants that fail the Step 9 screening limits need to be addressed in this exercise.

This procedure assesses the environmental impacts from each stack and then sums the results to estimate total impacts. This option is conceptually the same as the basic approach (Steps 1 through 9) and does not involve complex calculations. However, it is more time-consuming and is recommended only if the basic

approach fails to meet the risk criteria. The procedure is outlined below.

(A) Compute effective stack heights for each stack.[8]

[8]Follow the procedure outlined in Step 4 of the basic screening procedure to determine the GEP for each stack. If a stack's physical height exceeds the maximum GEP, use the maximum GEP values. If a stack's physical height is less than the minimum GEP, use generic source number 11 in the subsequent steps of this analysis. Follow the procedure in Steps 5(A) and 5(B) to determine the effective height of each stack.

Stack No.	GEP stack height (m)	Flow rate (m^3/sec)	Exit temp (EK)	Plume rise (m)	Effective stack height (m)
1	--	--	--	--	--
2	--	--	--	--	--
3	--	--	--	--	--
Add an additional page if more than three stacks are involved. Circle the maximum and minimum effective stack heights.					

(B) Determine if this multiple-stack screening procedure will likely produce less conservative results than the procedure in Steps 1 through 9. To do this, compute the ratio of maximum-to-minimum effective stack height:

$$\frac{\textit{Maximum Effective Stack Height}}{\textit{Minimum Effective Stack Height}} = _$$

If the above ratio is greater than 1.25, proceed with the remaining steps. Otherwise, this option is less likely to significantly reduce the degree of conservatism in the screening method.

(C) Determine if terrain adjustment is needed and select generic source numbers. Select the shortest stack height and maximum terrain rise out to 5 km from Step 1 and determine if the facility is in flat terrain.

Shortest stack height (m) =

Maximum terrain rise in meters out to 5 km =

$$\frac{\text{Terrain Rise (m)}}{\text{Shortest Stack Height (m)}} \times 100 = _____\%$$

If the value above is greater than 10 percent, the terrain is considered nonflat; proceed to Step 10(D). If the ratio is less than or equal to 10 percent, the terrain is considered flat. Identify the generic source numbers based on effective stack heights computed in Step 10(A). Refer to Table 5.0-2 provided earlier to identify generic source numbers. Record the generic source numbers identified and proceed to Step 10(F).

	Stack No.		
	1	2	3
Generic Source Numbers	--	--	--

(D) Compute the TAESH and select generic source numbers (four sources located in nonflat terrain).

1. Compute the TAESH for all remaining stacks using the following equation:

HE - TR = TAESH

where:

HE = effective stack height (m)

TR = maximum terrain rise for each distance range (m)

TAESH = terrain-adjusted effective stack height (m)

Use the Table Below To Calculate the TAESH for Each Stack[9]

Distance Range (km)	Stack No.		
	0-0.5	>0.5-2.5	>2.5-5.0
	HE - TR = TAESH	HE - TR = TAESH	HE - TR = TAESH
1	..... - ..... = ...	..... - ..... = ...	..... - ..... = ...
2	..... - ..... = ...	..... - ..... = ...	..... - ..... = ...
3	..... - ..... = ...	..... - ..... = ...	..... - ..... = ...

[9]Refer to Step 1 for terrain adjustment data. Note that the distance from the source to the outer radii of each range is used. For example, for the range >0.5-2.5 km, the maximum terrain rise in the range 0.0-2.5 km is used.

For those stacks where the terrain rise within a distance range is greater than the effective stack height (i.e., HE-TR is less than zero), the TAESH for that distance range is set equal to zero, and generic source number 1 should be used for that distance range for all subsequent distance ranges. Additionally, for all stacks with a physical stack height of less than or equal to 10 meters, use generic source number 1 for all distance ranges.[10] For the remaining stacks, proceed to Step 10(D)(2).

[10]This applies to all stacks less than or equal to 10 meters regardless of the terrain classification.

2. For the remaining stacks, refer to Table 5.0-2 and, for each distance range, identify the generic source number that includes the TAESH. Use the values obtained from Steps 10(D)(1) and 10(D)(2) to complete the following summary worksheet; Generic Source Number After Terrain Adjusted (If Necessary)

Stack No.	0-0.5 km	>0.5-2.5 km	>2.5-5.0 km
1			
2			
3			

(E) Identify maximum average hourly dispersion coefficients. Based on the land use classification of the site (e.g., urban or rural), use either Table 5.0-4 or Table 5.0-5 to determine the appropriate dispersion coefficient for each distance range for each stack. Begin at the minimum fenceline distance indicated in Step 7(B) and record on Worksheet 5.0-1 the dispersion coefficient for each stack/distance range. For stacks located in facilities in flat terrain, the generic source numbers were computed in Step 10(C). For stacks located in facilities in rolling and complex terrain, the generic source numbers were computed in Step 10(D). For flat terrain applications and for stacks with a physical height of less than or equal to 10 meters, only one generic source number is used per stack for all distance ranges. For other situations up to three generic source numbers may be needed per stack (i.e., a unique generic source number per distance range). In Tables 5.0-4 and 5.0-5, the dispersion coefficients for distances of 6 km to 20 km are the same for all generic source numbers in order to conservatively represent terrain beyond 5 km (past the limits of the terrain analysis).

Worksheet 5.0-1 Dispersion Coefficient by Downwind Distance[1]

Distance	Stack 1	Stack 2	Stack 3
0.20			
0.25			
0.30			
0.35			
0.40			
0.45			
0.50			
0.55			
0.60			
0.65			
0.70			
0.75			
0.80			
0.85			
0.90			
0.95			
1.00			
1.10			
1.20			
1.30			
1.40			
1.50			
1.60			
1.70			
1.80			
1.90			
2.00			
2.25			
2.50			
2.75			
3.00			
4.00			
5.00			
6.00			
7.00			
8.00			
9.00			
10.00			
15.00			
20.00			

[1]Note: This procedure places all stacks at the same point, but allows for consideration of different effective stack heights. The distance to the closest boundary (extracted from Step 1) should be the closest distance to any stack.

(F) Estimate maximum hourly ambient air concentrations. In this step, pollutant-specific emission rates are multiplied by appropriate dispersion coefficients to estimate ambient air concentrations. For each stack, emissions are multiplied by the dispersion coefficient selected in Step 10(E) and summed across all stacks to estimate ambient air concentrations at various distances from the facility. From these summed concentrations, the maximum hourly ambient air concentration is selected. First, select the maximum emission rate of the pollutant.[11] Record these data in the spaces provided below.[12]

[11]Recall that it is recommended that this analysis be performed for only one or two pollutants. The pollutants chosen for this analysis should be those that show the most significant exceedances of the risk threshold.

[12]Refer to Step 8 of the basic screening procedure. At this point in the screening procedure, annual emissions are used to represent hourly average emission rates. These values will be adjusted by the annual/hourly ratio to estimate annual average concentrations.

Maximum Annual Emission Rates (g/sec)

Pollutant	Stack 1	Stack 2	Stack 3

Complete a separate copy of Worksheet 5.0-2 for each pollutant and select the highest hourly concentration from the summation column at the far right of the worksheet. Record the maximum hourly air concentration for each pollutant analyzed (add additional lines if needed):

Pollutant	Maximum Hourly Air Concentration

WORKSHEET 5.0-2 MAXIMUM HOURLY AMBIENT AIR CONCENTRATION

Pollutant _____

ER = Annual Average Emission Rate; DC = Hourly Dispersion Coefficient (from Worksheet 5.0-1); C = Estimated Maximum Hourly Ambient Air Concentration

Total Distance (km)	Stack 1ER x DC = C	Stack 2ER x DC = C	Stack 3ER x DC = C	Summed Concentration from all Stacks
0.20	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.25	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.30	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.35	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.40	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.45	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.50	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.55	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.60	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.65	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.70	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.80	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.85	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.90	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
0.95	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.10	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.20	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.30	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.40	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.50	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.60	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.70	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.80	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
1.90	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
2.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
2.25	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
2.50	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
2.75	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
3.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
4.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
5.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
6.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
7.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
8.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
9.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
10.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
15.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____
20.00	_____x_____=_____	_____x_____=_____	_____x_____=_____	_____

ER = Annual Average Emission Rate DC = Hourly Dispersion Coefficient (from Worksheet 5.0-1) C = Estimated Maximum Hourly Ambient Air Concentration

(G) Determine the complex/noncomplex designation for each stack. For each stack, subtract the maximum terrain rise within 5 km of the site from the physical stack height and designate the stack as either complex or noncomplex. If the stack height minus the maximum terrain rise (within 5 km) is greater than zero or if the stack is less than 10 meters in physical height, then assign the stack a noncomplex designation. If the stack height minus the maximum terrain rise (within 5 km) is less than or equal to zero, then assign the stack a complex designation.

Perform the following computation for each stack and record the information in the spaces provided. Check in the spaces provided whether the stack designation is complex or noncomplex.

Stack No.	Stack height (m)	-	Maximum terrain rise (m)	=		Complex/ Non-complex
1		-		=	(m)	
2		-		=	(m)	
3		-		=	(m)	

(H) Identify annual/hourly ratios. Extract the annual/hourly ratios for each stack by referring to Table 5.0-6. Generic source numbers (from Steps 10(C) or 10(D), urban/rural designation (from Step 6)), and complex or noncomplex terrain designations (from Step 10(G)) are used to select the appropriate scaling factor needed to convert hourly maximum concentrations to estimates of annual average concentrations.

Complete the following table:[13]

[13]If any stack (excluding generic stack number 1 and 11) in Step 10(D) shows a negative terrain adjusted stack height, use the complex terrain annual/hourly ratios.

Stack No.	Generic source No. steps 10 (C or D) Distance ranges (km)			Annual/hourly ratio (from table 5.0-6)Distance ranges (km)		
	0-0.5	>0.5-2.5	>2.5-5.0	0-0.5	>0.5-2.5	>2.5-5.0
1	---	---	---	---	---	---
2	---	---	---	---	---	---
3	---	---	---	---	---	---

(I) Select the highest annual/hourly ratio among all of the stacks,[14] and then estimate the maximum annual average ambient air concentrations for each pollutant by completing the following table, where:

[14]As an option, the user can identify the stack with the highest ratio for each distance range (rather than the absolute highest). In this case, extra sheets would be needed to show estimated annual average concentrations from each stack by multiplying emission rate times maximum hourly dispersion coefficient times maximum annual/hourly ratio for applicable distance range. Then sum across all stacks for each downwind distance.

C = Maximum total hourly ambient air concentration ($\mu g/m^3$) for pollutant "N" from Step 10(F),

C_a = Maximum annual average air concentration for pollutant "N" ($\mu g/m^3$),

R = Annual/hourly ratio

Table 5.0-6.-95th Percentile of Annual/Hourly Ratios

Noncomplex Terrain			Complex Terrain		
Source	Urban	Rural	Source	Urban	Rural
1	0.019	0.014	1	0.020	0.053
2	0.033	0.019	2	0.020	0.053
3	0.031	0.018	3	0.030	0.057
4	0.029	0.017	4	0.051	0.047
5	0.028	0.017	5	0.067	0.039
6	0.028	0.017	6	0.059	0.034
7	0.031	0.015	7	0.036	0.031
8	0.030	0.013	8	0.026	0.024
9	0.029	0.011	9	0.026	0.024
10	0.029	0.008	10	0.017	0.013
11	0.018	0.015	11	0.020	0.053

Pollutant	C_a (μg/m^3) X R = C_a (μg/m^3)
----	---- X ---- = -----
----	---- X ---- = -----

(J) Use the maximum annual average concentrations from Step 10(I) to determine compliance with regulatory requirements.

Section 6.0 - Simplified Land Use Classification Procedure For Compliance With Tier I And Tier Ii Limits

6.1 Introduction

This section provides a simplified procedure to classify areas in the vicinity of boilers and industrial furnace sites as urban or rural in order to set risk-based emission limits under subpart H of 40 CFR part 266. Urban/rural classification is needed because dispersion rates differ between urban and rural areas and thus, the risk per unit emission rate differs accordingly. The combination of greater surface roughness (more buildings/structures to generate turbulent mixing) and the greater amount of heat released from the surface in an urban area (generates buoyancy-induced mixing) produces greater rates of dispersion. The emission limit tables in the regulation, therefore, distinguish between urban and rural areas.

EPA guidance (EPA 1986)[1] provides two alternative procedures to determine whether the character of an area is predominantly urban or rural. One procedure is based on land use typing and the other is based on population density. Both procedures require consideration of characteristics within a 3-km radius from a source, in this case the facility stack(s). The land use typing method is preferred because it more directly relates to the surface characteristics that affect dispersion rates. The remainder of this discussion is, therefore, focused on the land use method.

While the land use method is more direct, it can also be labor-intensive to apply. For this discussion, the land use method has been simplified so that it is consistent with EPA guidance (EPA 1986; Auer 1978), while streamlining the process for the majority of applications so that a clear-cut decision can be made without the need for detailed analysis. Table 6.0-1 summarizes the simplified approach for classifying areas as urban or rural. As shown, the applicant always has the option of applying standard (i.e., more detailed) analyses to more accurately distinguish between urban and rural areas. However, the procedure presented here allows for simplified determinations, where appropriate, to expedite the permitting process.

Table 6.0-1.- Classification of Land Use TypesType[1]

	Description	Urban or rural designation[2]
I1	Heavy Industrial	Urban.
I2	Light/Moderate Industrial	Urban.
C1	Commercial	Urban.
R1	Common Residential (Normal Easements)	Rural.
R2	Compact Residential (Single Family)	Urban.
R3	Compact Residential (Multi-Family)	Urban.
R4	Estate Residential (Multi-Acre Plots)	Rural.
A1	Metropolitan Natural	Rural.
A2	Agricultural	Rural.
A3	Undeveloped (Grasses/Weeds)	Rural.
A4	Undeveloped (Heavily Wooded)	Rural.
A5	Water Surfaces	Rural.

[1]EPA, Guideline on Air Quality Models (Revised), EPA-450/2-78-027R, Office of Air Quality Planning and Standards, Research Triangle Park, North Carolina, July, 1986.

[2]Auer, August H. Jr., "Correlation of Land Use and Cover with Meteorological Anomalies," Journal of Applied Meteorology, pp. 636-643, 1978.

6.2 Simplified Land Use Process

The land use approach considers four primary land use types: industrial (I), commercial (C), residential (R), and agricultural (A). Within These primary classes, subclasses are identified, as shown in table 6.0-1. The goal is to estimate the percentage of the area within a 3-km radius that is urban type and the percentage that is rural type. Industrial and commercial areas are classified as urban; agricultural areas are classified as rural.

The delineation of urban and rural areas, however, can be more difficult for the residential type areas shown in table 6.0-1. The degree of resolution shown in table 6.0-1 for residential areas often cannot be identified without conducting site area inspections and/or referring to zoning maps. This process can require extensive analysis, which, for many applications, can be greatly streamlined without sacrificing confidence in selecting the appropriate urban or rural classification.

The fundamental simplifying assumption is based on the premise that many applications will have clear-cut urban/rural designations, i.e., most will be in rural settings that can be definitively characterized through a brief review of topographical maps. The color coding on USGS topographical maps provides the most effective means of simplifying the typing scheme. The suggested typing designations for the color codes found on topographical maps are as follows:

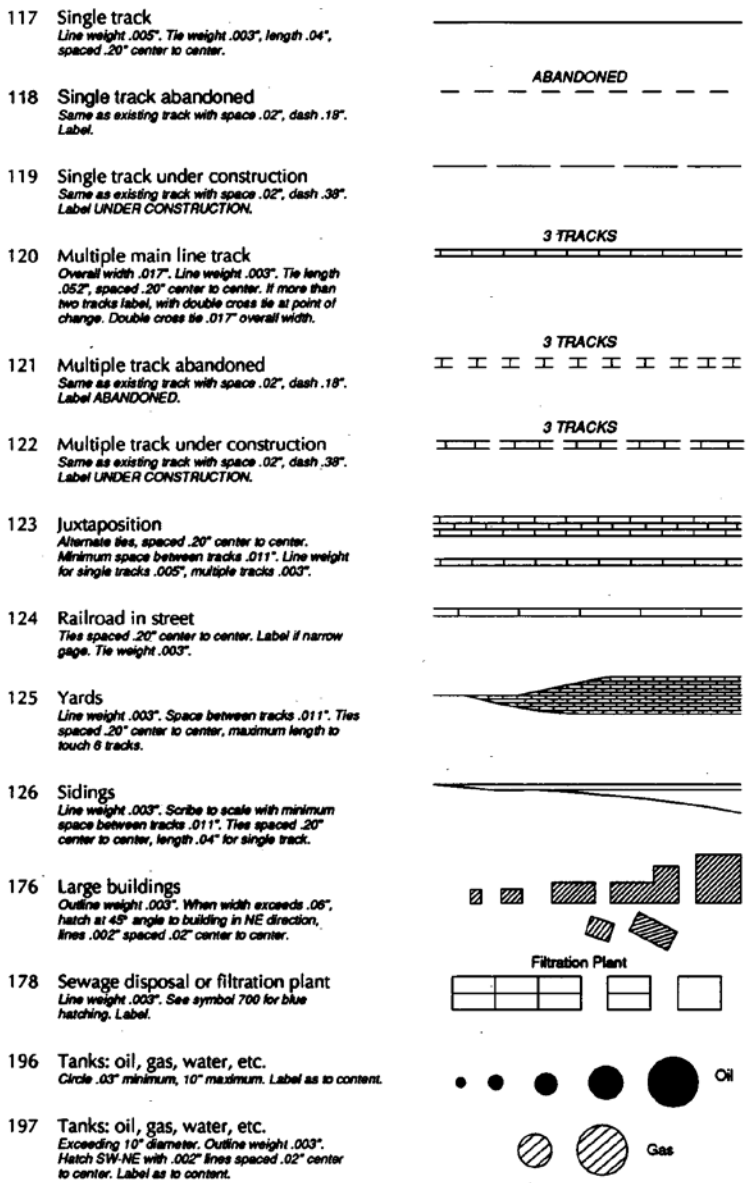
Green Wooded areas (rural).

White White areas generally will be treated as rural. This code applies to areas that are unwooded and do not have densely packed structures which would require the pink code (house omission tint). Parks, industrial areas, and unforested rural land will appear as white on the topographical maps. Of these categories, only the industrial areas could potentially be classified as urban based on EPA 1986 or Auer 1978. Industrial areas can be easily identified in most cases by the characteristics shown in Figure 6.0-1. For this simplified procedure, white areas that have an industrial classification will be treated as urban areas.

Figure 6.0-1 Supplementary Publication Symbols.

Figure 6.0-1

Supplementary Publication Symbols



Section 7.0 Statistical Methodology For Bevill Residue Determinations (Amended 12/93)

This section describes the statistical comparison of waste-derived residue to normal residue for use in determining eligibility for the Bevill exemption under 40 CFR 266.112.

7.1 Comparison of Waste-derived Residue to Normal Residue
To be eligible for the Bevill exclusion from the definition of hazardous waste under 266.112(b)(1), waste-derived residue must not contain Appendix VIII, Part 261, constituents that could reasonably be attributable to the hazardous waste (toxic constituents) at concentrations significantly higher than in residue generated without burning or processing hazardous waste (normal residue). Concentrations of toxic constituents in normal residue are determined based on analysis of a minimum of samples representing a minimum of 10 days of operation. The statistically-derived concentrations in normal residue are determined as the upper tolerance limit (95 % confidence with a 95 % proportion of the sample distribution) of the normal residue concentrations. The upper tolerance limit is to be determined as described in Section 7.2 below. If changes in raw materials or fuels could lower the statistically-derived concentrations of toxic constituents of concern, the statistically-derived baseline must be re-established for any such mode of operation with the new raw material or fuel. Concentrations of toxic constituents in waste-derived residue are determined based on the analysis of one or more samples collected over a compositing period of not more than 24 hours. Multiple

samples of the waste-derived residue may be analyzed or subsamples may be composited for analysis, provided that the sampling period does not exceed 24 hours. If more than one sample is analyzed to characterize the waste-derived residue generated over a 24-hour period, the arithmetic mean of the concentrations must be used as the waste-derived concentration for each constituent.

The concentration of a toxic constituent in the waste-derived residue is not considered to be significantly higher than in the normal residue (i.e., the residue passes the Bevill test for that constituent) if the concentration in the waste-derived residue does not exceed the statistically-derived concentration.

7.2. Calculation of the Upper Tolerance Limit

The 95% confidence with 95% proportion of the sample distribution (upper tolerance limit) is calculated for a set of values assuming that the values are normally distributed. The upper tolerance limit is a one-sided calculation and is an appropriate statistical test for cases in which a single value (the waste-derived residue concentration) is compared to the distribution of a range of values (the minimum of 10 measurements of normal residue concentrations). The upper tolerance limit value is determined as follows:

UTL = $X + (K)(S)$

where X = mean of the normal residue concentrations, $X = X_i/n$,

K = coefficient for sample size n, 95% confidence and 95% proportion,

S = standard deviation of the normal residue concentrations,

S = $(\Sigma (X_i - x)^2/(n - 1))^{0.5}$, and

n = sample size.

The values of K at the 95% confidence and 95% proportion, and sample size n are given in table 7.0-1.

For example, a normal residue test results in 10 samples with the following analytical results for toxic compound A:

Sample No.	Concentration of constituent A (ppm)
1	10
2	10
3	15
4	10
5	7
6	12
7	10
8	16
9	15
10	10

The mean and the standard deviation of these measurements, calculated using the above equations, are 11.5 and 2.9, respectively. Assuming that the values are normally distributed, the upper tolerance limit (UTL) is given by:

UTL = 11.5 + (2.911)(2.9) = 19.9 ppm

This, if the concentration of constituent A in the waste-derived residue is below 19.9 ppm, then the waste-derived residue is eligible for the Bevill exclusion for constituent A.

7.3 Normal Distribution Assumption

As noted in Section 7.2 above, this statistical approach (use of the upper tolerance limit) for calculation of the concentration in normal residue is based on the assumption that the concentration data are distributed normally. The Department is aware that concentration data of this type may not always be distributed normally, particularly when concentrations are near the detection limits. There are a number of procedures that can be used to test the distribution of a data set. For example, the Shapiro-Wilk test, examination of a histogram or plot of the data on normal probability paper, and examination of the coefficient of skewness are methods that may be applicable, depending on the nature of the data (References 1 and 2).

If the concentration data are not adequately represented by a normal distribution, the data may be transformed to attain a near normal distribution. The Department has found that concentration data, especially when near detection levels, often exhibit a lognormal distribution. The assumption of a lognormal distribution has been used in various programs at EPA, such as in the Office of Solid Waste Land Disposal Restrictions program for determination of BDAT treatment standards. The transformed data may be tested for normality using the procedures identified above. If the transformed data are better represented by a normal distribution than the untransformed data, the transformed data should be used in determining the upper tolerance limit using the procedures in Section 7.2 above.

In all cases where the owner or operator wishes to use other than an assumption of normally distributed data or believes that use of an alternate statistical approach is appropriate to the specific data set, the applicant must provide supporting rationale in the operating record that demonstrates that the data treatment is based upon sound statistical practice.

7.4 Nondetect Values

The Department is developing guidance regarding the treatment of nondetect values (data where the concentration of the constituent being measured is below the lowest concentration for which the analytical method is valid) in carrying out the statistical determination described above. Until the guidance information is available, facilities may present their own approach to the handling of nondetect data points, but must provide supporting rationale in the operating record for consideration by the Department or permitting authority.

Table 7.0-1. K Values for 95% Confidence and 95% Proportion

Sample size (n)	**K**
10	2.911
11	2.815
12	2.736
13	2.670
14	2.614
15	2.566
16	2.523
17	2.486
18	2.458
19	2.423
20	2.396
21	2.371

Sample size (n)	K
22	2.350
23	2.329
24	2.303
25	2.292

7.5 References

1. Shapiro, S.S. and Wilk, M.B. (1965), "An Analysis of Variance Test for Normality (complete samples)," Biometrika, 52,591-611.
2. Bhattacharyya, G.K. and R.A. Johnson (1977), Statistical Concepts and Methods, John Wiley and Sons, New York.

SECTION 8.0 Procedures For Determining Default Values For Air Pollution Control System Removal Efficiencies

During interim status, owners or operators of boilers and industrial furnaces burning hazardous waste must submit documentation to the Department that certifies that emissions of HCl, $C1_2$, metals, and particulate matter (PM) are not likely to exceed allowable emission rates. See certification of precompliance under 266.103(b). This documentation also establishes interim status feed rate and operating limits for the facility. For the initial certification, estimates of emissions and system removal efficiencies (SREs) can be made to establish the operating limits. Subsequently, owners or operators must use emissions testing to demonstrate that emissions do not exceed allowable levels, and to establish operating limits. See 40 CFR 266.103(c). However, initial estimates of emissions for certification of precompliance can be based on estimated or established SREs.

The SRE combines the effect of partitioning of the chorine, metals, or PM and the air pollution control system removal efficiency (APCS RE) for these pollutants. The SRE is defined as:
SRE = (species input-species emitted) / species input

The SRE can be calculated from the partitioning factor (PF) and APCS RE by the following formula:
SRE = 1-[(PF/100) X (1-APCS RE/100)]

where:
PF = percentage of the pollutant partitioned to the combustion gas

Estimates of the PF and/or the APCS RE can be based on either EPA's default values or engineering judgement. EPA's `default values for the APCS RE for metals, HCl, Cl_2, and PM are described in this section. EPA's default values for partitioning of these pollutants are described in section 9.0.

Guidelines for the use of engineering judgement to estimate APCS REs or PFs are described in section 9.4.

8.1 APCS RE Default Values for Metals

EPA's default assumptions for APCS RE for metals are shown in Table 8.1-1. The default values in the table are conservative estimates of the removal efficiencies for metals in BIFs, depending on the volatility of the metal and the type of APCS. The volatility of a metal depends on the temperature, the thermal input, the chlorine content of the waste, and the identity and concentration of the metal. Metals that do not vaporize at combustion zone temperatures are classified as "nonvolatile". Such metals typically enter the APCS in the form of large particles that are removed relatively easily. Metals that vaporize in the combustion zone and condense before entering the APCS are classified as "volatile". Such metals typically enter the APCS in the form of very fine, submicron particles that are rather inefficiently removed in many APCSs. Metals that vaporize in the combustion zone and do not condense before entering the APCS are classified as "very volatile". Such metals enter the APCS in the form of a vapor that is very inefficiently removed in many APCSs. Typically, BIFs have combustion zone temperatures high enough to vaporize any hazardous metal at concentrations sufficient to exceed risk-based emission limits. For this reason, the default assumption is that there are no nonvolatile metals. Tables 8.1-2 and 8.1-3 are used to determine whether metals are classified as "volatile" or "very volatile" depending on the temperature entering the APCS, the thermal input, and whether the waste is chlorinated or nonchlorinated.

Table 8.1-1. Air Pollution Control Systems (APCS) and Their Conservatively Estimated Efficiencies for Controlling Toxic Metals (%)

APCS	Metal Volatility		
	Nonvolatile	Volatile	Very Volatile
WS	40	30	20
VS-20	80	75	20
VS-60	87	75	40
ESP-1	90	75	0
ESP-2	92	80	0
ESP-4	95	80	0
WESP	90	85	40
FF	90	80	0
SD/FF	97	90	0
DS/FF	95	90	0
IWS	90	87	75

WS =Wet Scrubber including: Sieve Tray Tower, Packed Tower, Bubble Cap Tower
VS-20 = Venturi Scrubber, ca. 20-30 in W.G. Δ p
VS.60 = Venturi Scrubber, ca. >60 in W.G. Δ p
ESP-l = Electrostatic Precipitator; 1 stage
ESP-2 = Electrostatic Precipitator; 2 stage
ESP-4 = Electrostatic Precipitator; 4 stage
IWS = Ionizing Wet Scrubber
DS = Dry Scrubber
FF = Fabric Filter (Baghouse)
SD = Spray Dryer (Wet/Dry Scrubber)
WESP = Wet Electrostatic Precipitator

Table 8.1-2. Temperature (F) Entering APCS Above Which Metals Are Classified as Very Volatile in Combustion of Nonchlorinated Wastes

Metal		Thermal Input (MMBtu/hr)[1]				
Name	Symbol	1	10	100	1000	10000
Arsenic	As	320	280	240	200	160
Cadmium	Cd	1040	940	860	780	720
Chromium	Cr	2000	1760	1580	1420	1380
Beryllium	Be	1680	1440	1240	1080	980
Antimony	Sb	680	600	540	480	420
Barium	Ba	2240	1820	1540	1360	1240
Lead	Pb	1280	1180	1080	1000	920
Mercury	Hg	340	300	260	220	180
Silver	Ag	1820	1640	1480	1340	1220
Thallium	Tl	900	800	700	620	540

[1]Interpolation of thermal input is not allowed. If a BIF fires between two ranges, the APCS temperature under the higher thermal input must be used.

Example: For a BIF firing 10-100 MMBtu/hr, Mercury is considered very volatile at APCS temperatures above 260°F and volatile at APCS temperatures of 260° F and below.

Table 8.1-3. Temperature (F) Entering APCS Above Which Metals Are Classified as Very Volatile In Combustion of Chlorinated Wastes

Metal		Thermal Input (MMBtu/hr)[1]				
Name	Symbol	1	10	100	1000	10000
Arsenic	As	320	280	240	200	160
Cadmium	Cd	1040	940	860	780	720
Chromium	Cr	>140	>140	>140	>140	>140
Beryllium	Be	1680	1440	1240	1080	980
Antimony	Sb	680	600	540	480	420
Barium	Ba	2060	1840	1680	1540	1420
Lead	Pb	>140	>140	>140	>140	>140
Mercury	Hg	340	300	260	220	180
Silver	Ag	1080	940	840	740	660
Thallium	Tl	900	800	700	620	540

[1]Interpolation of thermal input is not allowed. If a BIF fires between two ranges, the APCS temperature under the higher thermal input must be used.

Example: For a BIF firing 10-100 MMBtu/hr, Mercury is considered very volatile at APCS temperatures above 260 F and volatile at APCS temperatures of 260 F and below.

A waste is considered chlorinated if chlorine is present in concentrations greater than 0.1 percent by weight. In the EPA guidance document "Guidance for Metals and Hydrogen Chloride Controls for Hazardous Waste Incinerators, Volume IV of the Hazardous Waste Incineration Guidance Series,"(1) one percent is used for the chlorinated/nonchlorinated cutoff. However, best engineering judgement, based on examination of pilot-scale data reported by Carroll et al. (2) on the effects of waste chlorine content on metals emissions, suggests that the 1 percent cutoff may not be sufficiently conservative.

Tables 8.1-2 and 8.1-3 were compiled based on equilibrium calculations. Metals are classified as very volatile at all temperatures above the temperature at which the vapor pressure of the metal is greater than 10 percent of the vapor pressure that results in emissions exceeding the most conservative risk-based emissions limits.

8.2 APCS RE Default Values for HCl and Cl_2

Default assumptions for APCS RE for HCl in BIFs are shown in Table 8.2-1. This table is identical to the column for other BIFs except that cement kilns have a minimum HCl removal efficiency of 83 percent. Because of the alkaline nature of the raw materials in cement kilns, most of the chlorine is converted to chloride salts. Thus, the minimum APCS RE for HCl for cement kilns is independent of the APCS train.

Removal efficiency of Cl_2 for most types of APCS is generally minimal. Therefore, the default assumption for APCS RE for Cl_2 for all APCSs is 0 percent. This is applicable to all BIFs, including cement kilns.

8.3 APCS RE Default Values for Ash

Default assumptions for APCS RE for PM are also shown in Table 8.1-4. These figures are conservative estimates of PM removal efficiencies for different types of APCSs. They are identical to the figures in the Nonvolatile APCS RE column for hazardous metals presented in Table 8.1-1 because the same collection mechanisms and collection efficiencies that apply to nonvolatile metals also apply to PM.

Table 8.2-1. Air Pollution Control Systems (APCS) and Their conservatively Estimated Efficiencies for Removing Hydrogen Chloride (HCl) and Particulate Matter (PM) (%)

APCD	HCl		
	Cement kilns	Other BIFs	PM
WS	97	97	40
VS-20	97	97	80
VS-60	98	98	87
ESP-1	83	0	90
ESP-2	83	0	92
ESP-4	83	0	95
WESP	83	70	90
FF	83	0	90
SD/FF	98	98	97
DS/FF	98	98	95
WS/IWS	99	99	95
IWS	99	99	90

WS =Wet Scrubber including: Sieve Tray Tower, Packed Tower, Bubble Cap Tower
PS = Proprietary Wet Scrubber Design (A number of proprietary wet scrubbers have come on the market in recent years that are highly efficient on both particulates and corrosive gases. Two such units are offered by Calvert Environmental Equipment Co. and by Hydro-Sonic Systems, Inc.).
VS-20 = Venturi Scrubber, ca. 20-30 in W.G. Δp
VS-60 = Venturi Scrubber, ca. >60 in W.G. Δp
ESP-l = Electrostatic Precipitator; 1 stage
ESP-2 = Electrostatic Precipitator; 2 stage
ESP-4 = Electrostatic Precipitator; 4 stage
IWS = Ionizing Wet Scrubber
DS = Dry Scrubber
FF = Fabric Filter (Baghouse)
SD = Spray Dryer (Wet/Dry Scrubber)

8.4 References

1. U.S. Environmental Protection Agency. "Guidance on Metals and Hydrogen Chloride Controls for Hazardous Waste Incinerators," Office of Solid Waste, Washington, D.C., August 1989.
2. Carroll, G.J., R.C. Thurnau, R.E. Maurnighan, L.R. Waterland, J.W. Lee, and D.J. Fournier. The Partitioning of Metals in Rotary Kiln Incineration. Proceedings of the Third International Conference on New Frontiers for Hazardous Waste Management. NTIS Document No. EPA/600/9-89/072, p. 555 (1989).

SECTION 9.0 Procedures For Determining Default Values For Partitioning Of Metals, Ash, And Total Chloride/Chlorine
Pollutant partitioning factor estimates can come from two sources: default assumptions or engineering judgement. EPA's default assumptions are discussed below for metals, HCl, Cl_2, and PM. The default assumptions are used to conservatively predict the partitioning factor for several types of BIFs. Engineering judgement-based partitioning factor estimates are discussed in section 9.4.

9.1 Partitioning Default Value for Metals
To be conservative, the Department is assuming that 100 percent of each metal in each feed stream is partitioned to the combustion gas. Owners/operators may use this default value or a supportable, site-specific value developed following the general guidelines provided in section 9.4.

9.2 Special Procedures for Chlorine, HCl, and Cl_2
The Department has established the special procedures presented below for chlorine because the emission limits are based on the pollutants HCl and Cl_2 formed from chlorine fed to the combustor. Therefore, the owner/operator must estimate the controlled emission rate of both HCl and Cl_2 and show that they do not exceed allowable levels.
1. The default partitioning value for the fraction of chlorine in the total feed streams that is partitioned to combustion gas is 100 percent. Owners/operators may use this default value or a supportable, site-specific value developed following the general guidelines provided in section 9.4.
2. To determine the partitioning of chlorine in the combustion gas to HCl versus Cl_2, either use the default values below or use supportable site-specific values developed following the general guidelines provided in section 9.4.
! For BIFs excluding halogen acid furnaces (HAFs), with a total feed stream chlorine/hydrogen ratio #0.95, the default partitioning factor is 20 percent Cl_2, 80 percent HCl.
! For HAFs and for BIFs with a total feed stream chlorine/hydrogen ratio >0.95, the default partitioning factor is 100 percent Cl_2.
3. To determine the uncontrolled (i.e., prior to acid gas APCS) emission rate of HCl and Cl_2, multiply the feed rate of chlorine times the partitioning factor for each pollutant. Then, for HCl, convert the chlorine emission rate to HCl by multiplying it by the ratio of the molecular weight of HCl to the molecular weight of Cl (i.e., 36.5/35.5). No conversion is needed for Cl_2.

9.3 Special Procedures for Ash
This section: (1) Explains why ash feed rate limits are not applicable to cement and light-weight aggregate kilns; (2) presents the default partitioning values for ash; and (3) explains how to convert the 0.08 gr/dscf, corrected to 7% O_2, PM emission limit to a PM emission rate.
Waiver for Cement and Light-Weight Aggregate Kilns. For cement kilns and light-weight aggregate kilns, raw material feed streams contain the vast majority of the ash input, and a significant amount of the ash in the feed stream is entrained into the kiln exhaust gas. For these devices, the ash content of the hazardous waste stream is expected to have a negligible effect on total ash emissions. For this reason, there is no ash feed rate compliance limit for cement kilns or light-weight aggregate kilns. Nonetheless, cement kilns and light-weight aggregate kilns are required to initially certify that PM emissions are not likely to exceed the PM limit, and subsequently, certify through compliance testing that the PM limit is not exceeded.
Default Partitioning Value for Ash. The default assumption for partitioning of ash depends on the feed stream firing system. There are two methods by which materials may be fired into BIFs: Suspension-firing and bed-firing.

The suspension category includes atomized and lanced pumpable liquids and suspension-fired pulverized solids. The default

partitioning assumption for materials fired by these systems is that 100 percent of the ash partitions to the combustion gas.

The bed-fired category consists principally of stoker boilers and raw materials (and in some cases containerized hazardous waste) fed into cement and light-weight aggregate kilns. The default partitioning assumption for materials fired on a bed is that 5 percent of the ash partitions to the combustion gas.

Converting the PM Concentration-Based Standard to a PM Mass Emission Rate. The emission limit for BIFs is 0.08 gr/dscf, corrected to 7% 0_2, unless a more stringent standard applies [e.g., a New Source Performance Standard (NSPS) or a State standard implemented under the State Implementation Plan (SIP)]. To convert the 0.08 gr/dscf standard to a PM mass emission rate:

1. Determine the flue gas 0_2 concentration (percent by volume, dry) and flue gas flow rate (dry standard cubic feet per minute); and
2. Calculate the allowable PM mass emission rate by multiplying the concentration-based PM emission standard times the flue gas flow rate times a dilution correction factor equal to [(21-0_2 concentration from step 1)/(21-7)].

9.4 Use of Engineering Judgement To Estimate Partitioning and APCS RE Values

Engineering judgement may be used in place of EPA's conservative default assumptions to estimate partitioning and APCS RE values provided that the engineering judgement is defensible and properly documented. To properly document engineering judgement, the owner/operator must keep a written record of all assumptions and calculations necessary to justify the APCS RE used. The owner/operator must provide this record to the Department upon request and must be prepared to defend the assumptions and calculations used.

If the engineering judgement is based on emissions testing, the testing will often document the emission rate of a pollutant relative to the feed rate of that pollutant rather than the partitioning factor or APCS RE.

Examples of situations where the use of engineering judgement may be supportable to estimate a partitioning factor, APCS RE, or SRE include:

! Using emissions testing data from the facility to support an SRE, even though the testing may not meet full QA/QC procedures (e.g., triplicate test runs). The closer the test results conform with full QA/QC procedures and the closer the operating conditions during the test conform with the established operating conditions for the facility, the more supportable the engineering judgement will be.

! Applying emissions testing data documenting an SRE for one metal, including nonhazardous surrogate metals to another less volatile metal.

! Applying emissions testing data documenting an SRE from one facility to a similar facility.

! Using APCS vendor guarantees of removal efficiency.

9.5 Restrictions on Use of Test Data

The measurement of an SRE or an APCS RE may be limited by the detection limits of the measurement technique. If the emission of a pollutant is undetectable, then the calculation of SRE or APCS RE should be based on the lower limit of detectability. An SRE or APCS RE of 100 percent is not acceptable.

Further, mass balance data of facility inputs, emissions, and products/residues may not be used to support a partitioning factor, given the inherent uncertainties of such procedures. Partitioning factors other than the default values may be supported based on engineering judgement, considering, for example, process chemistry. Emissions test data may be used to support an engineering judgement-based SRE, which includes both partitioning and APCS RE.

9.5 References

1. Barton, R.G., W.D. Clark, and W.R. Seeker. (1990) "Fate of Metals in Waste Combustion Systems". Combustion Science and Technology. 74, 1-6, p. 327

Section 10.0 Alternative Methodology For Implementing Metals Controls

10.1 Applicability

This method for controlling metals emissions applies to cement kilns and other industrial furnaces operating under interim status that recycle emission control residue back into the furnace.

10.2 Introduction

Under this method, cement kilns and other industrial furnaces that recycle emission control residue back into the furnace must comply with a kiln dust concentration limit (i.e., a collected particulate matter (PM) limit) for each metal, as well as limits on the maximum feedrates of each of the metals in: (1) pumpable hazardous waste; and (2) all hazardous waste.

The following subsections describe how this method for controlling metals emissions is to be implemented:

! Subsection 10.3 discusses the basis of the method and the assumptions upon which it is founded;

! Subsection 10.4 provides an overview of the implementation of the method;

! Subsection 10.5 is a step-by-step procedure for implementation of the method;

! Subsection 10.6 describes the compliance procedures for this method; and

! Appendix A describes the statistical calculations and tests to be used in the method.

10.3 Basis

The viability of this method depends on three fundamental assumptions:

(1) Variations in the ratio of the metal concentration in the emitted particulate to the metal concentration in the collected kiln dust (referred to as the enrichment factor or EF) for any given metal at any given facility will fall within a normal distribution that can be experimentally determined.

(2) The metal concentrations in the collected kiln dust can be accurately and representatively measured (using procedures specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), incorporated by reference in 40 CFR 260.11).

(3) The facility will remain in compliance with the applicable particulate matter (PM) emission standard.

Given these assumptions. metal emissions can be related to the measured concentrations in the collected kiln dust by the following equation:

$$ME\left(\frac{lb\ Emitted\ Metal}{hr}\right) =$$

$$PME\left(\frac{lb\ PM}{hr}\right)\ DMC\left(\frac{lb\ DustMetal}{lb\ Dust}\right)\ EF\left(\frac{lb\ EmittedMetal/lb\ PM}{lb\ Dust\ Metal/lb\ Dust}\right)\quad (1)$$

Where:
ME is the metal emitted;
PME is the particulate matter emitted;
DMC is the metal concentration in the collected kiln dust; and
EF is the enrichment factor, which is the ratio of the metal concentration in the emitted particulate matter to the metal concentration in the collected kiln dust.
This equation can be rearranged to calculate a maximum allowable dust metal concentration limit (DMCL) by assuming worst-case conditions that: metal

$$DMCL\left(\frac{lb\ Dust\ Metal}{lb\ Dust}\right) = \frac{Tier\ III\ Limit\left(\frac{lb\ Emitted\ Metal}{hr}\right)}{PML\left(\frac{lb\ PM}{hr}\right)EF\left(\frac{lb\ Emitted\ Metal\ /\ lb\ PM}{lb\ Dust\ Metal\ /\ lb\ Dust}\right)}$$

The enrichment factor used in the above equation must be determined experimentally from a minimum of 10 tests in which metal concentrations are measured in kiln dust and stack samples taken simultaneously. This approach provides a range of enrichment factors that can be inserted into a statistical distribution (t-distribution) to determine $EF_{95\%}$ and $EF_{99\%}$. $EF_{95\%}$ is the value at which there is a 95% confidence level that the enrichment factor is below this value at any given time. Similarly, $EF_{99\%}$ is the value at which there is a 99% confidence level that the enrichment factor is below this value at any given time. $EF_{95\%}$ is used to calculate the "violation" dust metal concentration limit ($DMCL_v$):

$$DMCL_v\left(\frac{lb\ Dust\ Metal}{lb\ Dust}\right) = \frac{Tier\ III\ Limit\left(\frac{lb\ Emitted\ Metal}{hr}\right)}{PML\left(\frac{lb\ PM}{hr}\right)EF_{95\%}\left(\frac{lb\ Emitted\ Metal\ /\ lb\ PM}{lb\ Dust\ Metal\ /\ lb\ Dust}\right)}\qquad (3)$$

If the kiln dust metal concentration is just above this "violation" limit, and the PM emissions are at the PM emissions limit, there is a 5% chance that the metal emissions are above the Tier III limit. In such a case, the facility would be in violation of the metals standard.
To provide a margin of safety, a second, more conservative kiln dust metal concentration limit is also used. This "conservative" dust metal concentration limit ($DMCL_c$) is calculated using a "safe" enrichment factor (SEF). If $EF_{99\%}$ is greater than two times the value of $EF_{95\%}$, the "safe" enrichment factor can be calculated using Equation 4a:

$SEF > 2\ EF_{95\%}$ (4a) Q02

If $EF_{99\%}$ is not greater than two times the value of $EF_{95\%}$, the "safe" enrichment factor can be calculated using Equation 4b:

$SEF > EF_{99\%}$ (4b)

In cases where the enrichment factor cannot be determined because the kiln dust metal concentration is nondetectable, the "safe" enrichment factor is as follows:
SEF = 100 (4c)

For all cases, the "conservative" dust metal concentration limit is calculated using the following equation:

$$DMCL_c\left(\frac{lb\ Dust\ Metal}{lb\ Dust}\right) = \frac{Tier\ III\ Limit\left(\frac{lb\ Emitted\ Metal}{hr}\right)}{PML\left(\frac{lb\ PM}{hr}\right)SEF\left(\frac{lb\ Emitted\ Metal\ /\ lb\ PM}{lb\ Dust\ Metal\ /\ lb\ Dust}\right)}\quad (5)$$

If the kiln dust metal concentration at a facility is just above the "conservative" limit based on that "safe" enrichment factor provided in Equation 4a, and the PM emissions are at the PM emissions limit, there is a 5% chance that the metal emissions are above one-half the Tier III limit. If the kiln dust metal concentration at the facility is just above the "conservative" limit based on the "safe" enrichment factor provided in Equation 4b, and the PM emissions are at the PM emissions limit, there is a 1% chance that the metal emissions are above the Tier III limit. In either case, the facility would be unacceptably close to a violation. If this situation occurs more than 5% of the time, the facility would be required to rerun the series of 10 tests to determine the enrichment factor. To avoid this expense. the facility would be advised to reduce its metals feedrates or to take other appropriate measures to maintain its kiln dust metal concentrations in compliance with the "conservative" dust metal concentration limits.

In cases where the enrichment factor cannot be determined because the kiln dust metal concentration is nondetectable, and thus no $EF_{95\%}$ exists, the "violation" dust metal concentration limit is set at ten times the "conservative" limit:

$$DMCL_v = 10 \text{ X } DMCL_c \qquad (6)$$

10.4 Overview

The flowchart for implementing the method is shown in Figure 10.4-1. The general procedure is as follows:

! Follow the certification of precompliance procedures described in subsection 10.6 (to comply with 40 CFR 266.103(b)).

! For each metal of concern, perform a series of tests to establish the relationship (enrichment factor) between the concentration of emitted metal and the metal concentration in the collected kiln dust.

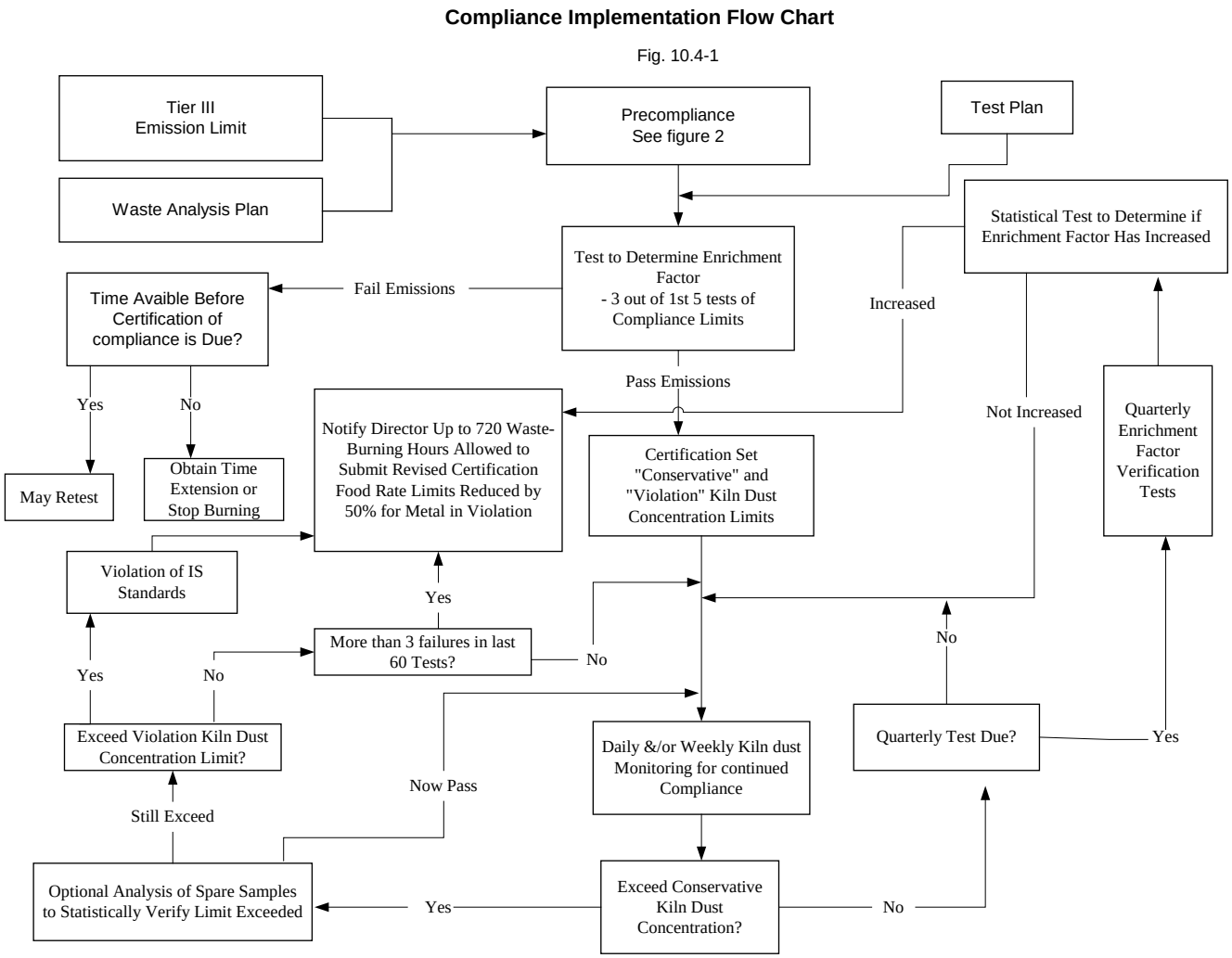
! Use the demonstrated enrichment factor, in combination with the Tier III (or Tier II) metal emission limit and the most stringent applicable particulate emission limit, to calculate the "violation" and "conservative" dust metal concentration limits. Include this information with the certification of compliance under 266.103(c).

! Perform daily and/or weekly monitoring of the cement kiln dust metal concentration to ensure (with appropriate QA/QC) that the metal concentration does not exceed either limit.

- If the cement kiln dust metal concentration exceeds the "conservative" limit more than 5% of the time (i.e., more than three failures in last 60 tests), the series of tests to determine the enrichment factor must be repeated.
- If the cement kiln dust metal concentration exceeds the "violation" limit, a violation has occurred.

! Perform quarterly tests to verify that the enrichment factor has not increased significantly. If the enrichment factor has increased, the series of tests to determine the enrichment factor must be repeated.

Figure 10.4-1 Compliance Implementation Flow Chart.



10.5 Implementation Procedures

A step-by-step description for implementing the method is provided below:

(1) Prepare initial limits and test plans.

! Determine the Tier III metal emission limit. The Tier II metal emission limit may also be used (see 266.106).

! Determine the applicable PM emission standard. This standard is the most stringent particulate emission standard that applies to

the facility. A facility may elect to restrict itself to an even more stringent self-imposed PM emission standard, particularly if the facility finds that it is easier to control particulate emissions than to reduce the kiln dust concentration of a certain metal (i.e., lead).
! Determine which metals need to be monitored (i.e., all hazardous metals for which Tier III emission limits are lower than PM emission limits-assuming PM is pure metal).
! Follow the compliance procedures described in Subsection 10.6.
! Follow the guidelines described in SW-846 for preparing test plans and waste analysis plans for the following tests:
- Compliance tests to determine limits on metal feedrates in pumpable hazardous wastes and in all hazardous wastes (as well as to determine other compliance parameters);
- Initial tests to determine enrichment factors;
- Quarterly tests to verify enrichment factors;
- Analysis of hazardous waste feedstreams; and
- Daily and/or weekly monitoring of kiln dust for continuing compliance.

(2) Conduct tests to determine the enrichment factor.
! These tests must be conducted within a 14-day period. No more than two tests may be conducted in any single day. If the tests are not completed within a 14-day period, they must be repeated.
! Simultaneous stack samples and kiln dust samples must be taken.

- Stack sampling must be conducted with the multiple metals train according to procedures provided in section 10.3 of this Methods Manual.
- Kiln dust sampling must be conducted as follows:
- Follow the sampling and analytical procedures described in SW-846 and the waste analysis plan as they pertain to the condition and accessibility of the dust.
- Samples should be representative of the last ESP or Fabric Filter in the APCS series.

! The feedrates of hazardous metals in all pumpable hazardous waste streams and in all hazardous waste streams must be monitored during these tests. It is recommended (but not required) that the feedrates of hazardous metals in all feedstreams also be monitored.
! At least ten single (noncomposited) runs are required during the tests.

- The facility must follow a normal schedule of kiln dust recharging for all of the tests.
- Three of the first five tests must be compliance tests in conformance with 266.103(c); i.e., they must be used to determine maximum allowable feedrates of metals in pumpable hazardous wastes. and in all hazardous wastes, as well as to determine other compliance limits (see 266.103(c)(1)).
- The remaindar of the tests need not be conducted under full compliance test conditions; however, the facility must operate at its compliance test production rate, and it must burn hazardous waste during these tests such that the feedrate of each metal for pumpable and total hazardous wastes is at least 25% of the feedrate during compliance testing. If these criteria, and those discussed below, are not met for any parameter during a test, then either the test is not valid for determining enrichment factors under this method, or the compliance limits for that parameter must be established based on these test conditions rather than on the compliance test conditions.

! Verify that compliance emission limits are not exceeded.
- Metal emissions must not exceed Tier III (or Tier II) limits.
- PM emissions must not exceed the most stringent of applicable PM standards (or an optional self-imposed particulate standard).

! The facility must generate normal, marketable product using normal raw materials and fuels under normal operating conditions (for parameters other than those specified under this method) when these tests are conducted.
! Chromium must be treated as a special case:
- The enrichment factor for total chromium is calculated in the same way as the enrichment factor for other metals (i.e., the enrichment factor is the ratio of the concentration of total chromium in the emitted particulate matter to the concentration of total chromium in the collected kiln dust).
- The enrichment factor for hexavalent chromium (if measured) is defined as the ratio of the concentration of hexavalent chromium in the emitted particulate matter to the concentration of total chromium in the collected kiln dust.

(3) Use the enrichment factors measured in Step 2 to determine $EF_{95\%}$, $EF_{99\%}$, and SEF.
! Calculate $EF_{95\%}$ and $EF_{99\%}$ according to the t-distribution as described in Appendix A
! Calculate SEF by

- Equation 4a if $EF_{95\%}$ is determinable and if $EF_{99\%}$ is greater than two times $EF_{95\%}$,
- Equation 4b if $EF_{95\%}$ is determinable and if $EF_{99\%}$ is not greater than two times $EF_{95\%}$.
- Equation 4c if $EF_{95\%}$ is not determinable.

The facility may choose to set an even more conservative SEF to give itself a larger margin of safety between the point where corrective action is necessary and the point where a violation occurs.
(4) Prepare certification of compliance.

! Calculate the "conservative" dust metal concentration limit ($DMCL_c$) using Equation 5.

- Chromium is treated as a special case. The "conservative" kiln dust chromium concentration limit is set for total chromium, not for hexavalent chromium. The limit for total chromium must be calculated using the Tier III (or Tier II) metal limit for hexavalent chromium.
- If the stack samples described in Step 2 were analyzed for hexavalent chromium, the SEF based on the hexavalent chromium enrichment factors (as defined in Step 2) must be used in this calculation.
- If the stack samples were not analyzed for hexavalent chromium, then the SEF based on the total chromium enrichment factor must be used in this calculation.

! Calculate the "violation" dust metal concentration limit ($DMCL_v$) using Equation 3 if $EF_{95\%}$ is determinable, or using Equation 6 if $EF_{95\%}$ is not determinable.

- Chromium is treated as a special case. The "violation" kiln dust chromium concentration limit is set for total chromium, not for hexavalent chromium. The limit for total chromium must be calculated using the Tier III (or Tier II) metal limit for hexavalent chromium.
- If the stack samples taken in Step 2 were analyzed for hexavalent chromium, the $EF_{95\%}$ based on the hexavalent chromium enrichment factor (as defined in Step 2) should be used in this calculation.
- If the stack samples were not analyzed for hexavalent chromium, the $EF_{95\%}$ based on the total chromium enrichment factor must be used in this calculation.

! Submit certification of compliance.
! Steps 2-4 must be repeated for recertification, which is required once every 3 years (see 266.103(d)).
(5) Monitor metal concentrations in kiln dust for continuing compliance, and maintain compliance with all compliance limits for the duration of interim status.
! Metals to be monitored during compliance testing are classified as either "critical" or "noncritical" metals.

- All metals must initially be classified as "critical" metals and be monitored on a daily basis.
- A "critical" metal may be reclassified as a "noncritical" metal if its concentration in the kiln dust remains below 10% of its "conservative" kiln dust metal concentration limit for 30 consecutive daily samples. "Noncritical" metals must be monitored on a weekly basis.
- A "noncritical" metal must be reclassified as a "critical" metal if its concentration in the kiln dust is above 10% of its "conservative" kiln dust metal concentration limit for any single daily or weekly sample.

! Noncompliance with the sampling and analysis schedule prescribed by this method is a violation of the metals controls under 266.103.
! Follow the sampling, compositing, and analytical procedures described in this method and in SW-846 as they pertain to the condition and accessibility of the kiln dust.
! Follow the same procedures and sample at the same locations as were used for kiln dust samples collected to determine the enrichment factors (as discussed in Step 2).
! Samples must be collected at least once every 8 hours, and a daily composite must be prepared according to SW-846 procedures.

- At least one composite sample is required. This sample is referred to as the "required" sample.
- For QA/QC purposes, a facility may elect to collect two or more additional samples. These samples are referred to as the "spare" samples. These additional samples must be collected over the same time period and according to the same procedures as those used for the "required" sample.
- Samples for "critical" metals must be daily composites.
- Samples for "noncritical" metals must be weekly composites. These samples can be composites of the original 8-hour samples, or they can be composites of daily composite samples.

! Analyze the "required" sample to determine the concentration of each metal.

- This analysis must be completed within 48 hours of the close of the sampling period. Failure to meet this schedule is a violation of the metals standards of 266.103.

! If the "conservative" kiln dust metal concentration limit is exceeded for any metal, refer to Step 8.
! If the "conservative" kiln dust metal concentration limit is not exceeded, continue with the daily or weekly monitoring (Step 5) for the duration of interim status.
! Conduct quarterly enrichment factor verification tests, as described in Step 6.
(6) Conduct quarterly enrichment factor verification tests.
! After certification of compliance with the metals standards, a facility must conduct quarterly enrichment factor verification tests every three months for the duration of interim status. The first quarterly test must be completed within three months of certification (or recertification). Each subsequent quarterly test must be completed within three months of the preceding quarterly test. Failure to meet this schedule is a violation.
! Simultaneous stack samples and kiln dust samples must be collected.
! Follow the same procedures and sample at the same locations as were used for kiln dust samples and stack samples collected to determine the enrichment factors (as discussed in Step 2).
! At least three single (noncomposited) runs are required. These tests need not be conducted under the operating conditions of the initial compliance test; however, the facility must operate under the following conditions:
- It must operate at compliance test production rate.
- It must burn hazardous waste during the test, and for the 2-day period immediately preceding the test, such that the feedrate of each metal for pumpable and total hazardous wastes consist of at least 25% of the operating limits established during the compliance test.
- It must remain in compliance with all compliance parameters (see 266.103(c)(1)).
- It must follow a normal schedule of kiln dust recharging.
- It must generate normal marketable product from normal raw materials during the tests.
(7) Conduct a statistical test to determine if the enrichment factors measured in the quarterly verification tests have increased significantly from the enrichment factors determined in the tests conducted in Step 2. The enrichment factors have increased significantly if all three of the following criteria are met:
! By applying the t-test described in Appendix A, it is determined that the enrichment factors measured in the quarterly tests are not taken from the same population as the enrichment factors measured in the Step 2 tests;
! The $EF_{95\%}$ calculated for the combined data sets (i.e., the quarterly test data and the original Step 2 test data) according to the t-distribution (described in Appendix A) is more than 10% higher than the $EF_{95\%}$ based on the enrichment factors previously measured in Step 2; and
! The highest measured kiln dust metal concentration recorded in the previous quarter is more than 10% of the "violation" kiln dust

concentration limit that would be calculated from the combined $EF_{95\%}$.

If the enrichment factors have increased significantly, the tests to determine the enrichment factors must be repeated (refer to Step 11). If the enrichment factors have not increased significantly, continue to use the kiln dust metal concentration limits based on the enrichment factors previously measured in Step 2, and continue with the daily and/or weekly monitoring described in Step 5.

(8) If the "conservative" kiln dust metal concentration limit was exceeded for any metal in any single analysis of the "required" kiln dust sample, the "spare" samples corresponding to the same period may be analyzed to determine if the exceedance was due to a sampling or analysis error.

! If no "spare" samples were taken, refer to Step 9.

! If the average of all the samples for a given day (or week, as applicable) (including the "required" sample and the "spare" samples) does not exceed the "conservative" kiln dust metal concentration limit, no corrective measures are necessary; continue with the daily and/or weekly monitoring as described in Step 5.

! If the average of all the samples for a given day (or week, as applicable) exceeds the "conservative" kiln dust metal concentration limit, but the average of the "spare" samples is below the "conservative" kiln dust metal concentration limit, apply the Q-test, described in Appendix A, to determine whether the "required" sample concentration can be judged as an outlier.

- If the "required" sample concentration is judged an outlier,no corrective measures are necessary; continue with the daily and/or weekly monitoring described in Step 5.
- If the "required" sample concentration is not judged an outlier, refer to Step 9.

(9) Determine if the "violation" kiln dust metal concentration has been exceeded based on either the average of all the samples collected during the 24-hour period in question, or if discarding an outlier can be statistically justified by the Q-test described in Appendix A, on the average of the remaining samples.

! If the "violation" kiln dust metal concentration limit has been exceeded, a violation of the metals controls under 266.103(c) has occurred. Notify the Department that a violation has occurred. Hazardous waste may be burned for testing purposes for up to 720 operating hours to support a revised certification of compliance. Note that the Department may grant an extension of the hours of hazardous waste burning under 266.103(c)(7) if additional burning time is needed to support a revised certification for reasons beyond the control of the owner or operator. Until a revised certification of compliance is submitted to the Department, the feedrate of the metals in violation in total and pumpable hazardous waste feeds is limited to 50% of the previous compliance test limits.

! If the "violation" kiln dust metal concentration has not been exceeded:

- If the exceedance occurred in a daily composite sample, refer to Step 10.
- If the exceedance occurred in a weekly composite sample, refer to Step 11.

(10) Determine if the "conservative" kiln dust metal concentration limit has been exceeded more than three times in the last 60 days.

! If not, log this exceedance and continue with the daily and/or weekly monitoring (Step 5).

! If so, the tests to determine the enrichment factors must be repeated (refer to Step 11).

! This determination is made separately for each metal; For example,

- Three exceedances for each of the ten hazardous metals are allowed within any 60-day period.
- Four exceedances of any single metal in any 60-day period is not allowed.

! This determination should be made daily, beginning on the first day of daily monitoring. For example, if four exceedances of any single metal occur in the first four days of daily monitoring, do not wait until the end of the 60-day period; refer immediately to Step 11.

(11) The tests to determine the enrichment factor must be repeated if: (1) More than three exceedances of the "conservative" kiln dust metal concentration limit occur within any 60 consecutive daily samples; (2) an excursion of the "conservative" kiln dust metal concentration limit occurs in any weekly sample; or (3) a quarterly test indicates that the enrichment factors have increased significantly.

! The facility must notify the Department if these tests must be repeated.

! The facility has up to 720 hazardous-waste-burning hours to redetermine the enrichment factors for the metal or metals in question and to recertify (beginning with a return to Step 2). During this period, the facility must reduce the feed rate of the metal in violation by 50%. If the facility has not completed the recertification process within this period, it must stop burning or obtain an extension. Hazardous waste burning may resume only when the recertification process (ending with Step 4) has been completed.

! Meanwhile, the facility must continue with daily kiln dust metals monitoring (Step 5) and must remain in compliance with the "violation" kiln dust metal concentration limits (Step 9).

10.6 Precompliance Procedures

Cement kilns and other industrial furnaces that recycle emission control residue back into the furnace must comply with the same certification schedules and procedures (with the few exceptions described below) that apply to other boilers and industrial furnaces. These schedules and procedures, as set forth in 266.103, require no later than the effective date of the rule, each facility submit a certification which establishes precompliance limits for a number of compliance parameters (see 266.103(b)(3)), and that each facility immediately begin to operate under these limits. These precompliance limits must ensure that interim status emissions limits for hazardous metals, particulate matter, HCl, and Cl_2 are not likely to be exceeded. Determination of the values of the precompliance limits must be made based on either (1) conservative default assumptions provided in this Methods Manual, or (2) engineering judgement.

The flowchart for implementing the precompliance procedures is shown in Figure 10.6-1. The step-by-step precompliance implementation procedure is described below. The precompliance implementation procedures and numbering scheme are similar to those used for the compliance procedures described in Subsection 10.5.

(1) Prepare initial limits and test plans.
! Determine the Tier III metal emission limit. The Tier II metal emission limit may also be used (see 40 CFR 266.106).
! Determine the applicable PM emission standard. This standard is the most stringent particulate emission standard that applies to the facility. A facility may elect to restrict itself to an even more stringent self-imposed PM emission standard, particularly if the facility finds that it is easier to control particulate emissions than to reduce the kiln dust concentration of a certain metal (i.e., lead).
! Determine which metals need to be monitored (i.e., all hazardous metals for which Tier III emission limits are lower than PM emission limits, assuming PM is pure metal).
! Follow the procedures described in SW-846 for preparing waste analysis plans for the following tasks:
- Analysis of hazardous waste feedstreams.
- Daily and/or weekly monitoring of kiln dust concentrations for continuing compliance.

(2) Determine the "safe" enrichment factor for precompliance. In this context, the "safe" enrichment factor is a conservatively high estimate of the enrichment factor (the ratio of the emitted metal concentration to the metal concentration in the collected kiln dust). The "safe" enrichment factor must be calculated from either conservative default values, or engineering judgment.

! Conservative default values for the "safe" enrichment factor are as follows:
- SEF = 10 for all hazardous metals except mercury. SEF = 10 for antimony, arsenic, barium, beryllium, cadmium, chromium, lead, silver, and thallium.
- SEF = 100 for mercury.

! Engineering judgment may be used in place of conservative default assumptions provided that the engineering judgment is defensible and properly documented. The facility must keep a written record of all assumptions and calculations necessary to justify the SEF. The facility must provide this record to the Department upon request and must be prepared to defend these assumptions and calculations.
Examples of situations where the use of engineering judgment is appropriate include:
- Use of data from precompliance tests;
- Use of data from previous compliance tests; and
- Use of data from similar facilities.

(3) This step does not apply to precompliance procedures.
(4) Prepare certification of precompliance.
! Calculate the "conservative" dust metal concentration limit ($DMCL_c$) using Equation 5.
! Submit certification of precompliance. This certification must include precompliance limits for all compliance parameters that apply to other boilers and industrial furnaces (i.e., those that do not recycle emission control residue back into the furnace) as listed in 266.103(b)(3), except that it is not necessary to set precompliance limits on maximum feedrate of each hazardous metal in all combined feedstreams.
! Furnaces that recycle collected PM back into the furnace (and that elect to comply with this method (see 266.103(c)(3)(ii)) are subject to a special precompliance parameter, however. They must establish precompliance limits on the maximum concentration of each hazardous metal in collected kiln dust. (which must be set according to the procedures described above).

(5) Monitor metal concentration in kiln dust for continuing compliance, and maintain compliance with all precompliance limits until certification of compliance has been submitted.
! Metals to be monitored during precompliance testing are classified as either "critical" or "noncritical" metals.

- All metals must initially be classified as "critical" metals and be monitored on a daily basis.
- A "critical" metal may be reclassified as a "noncritical" metal if its concentration in the kiln dust remains below 10% of its "conservative" kiln dust metal concentration limit for 30 consecutive daily samples. "Noncritical" metals must be monitored on a weekly basis, at a minimum.
- A "noncritical" metal must be reclassified as a "critical" metal if its concentration in the kiln dust is above 10% of its "conservative" kiln dust metal concentration limit for any single daily or weekly sample.

! It is a violation if the facility fails to analyze the kiln dust for any "critical" metal on any single day or for any "noncritical" metal during any single week, when hazardous waste is burned.
! Follow the sampling, compositing, and analytical procedures described in this method and in SW-846 as they pertain to the condition and accessibility of the kiln dust.
! Samples must be collected at least once every 8 hours, and a daily composite prepared according to SW-846 procedures.
- At least one composite sample is required. This sample is referred to as the "required" sample.
- For QA/QC purposes, a facility may elect to collect two or more additional samples. These samples are referred to as the "spare" samples. These additional samples must be collected over the same time period and according to the same procedures as those used for the "required" sample.
- Samples for "critical" metals must be daily composites.
- Samples for "noncritical" metals must be weekly composites, at a minimum. These samples can be composites of the original 8-hour samples, or they can be composites of daily composite samples.

! Analyze the "required" sample to determine the concentration of each metal.
- This analysis must be completed within 48 hours of the close of the sampling period. Failure to meet this schedule is a violation.

! If the "conservative" kiln dust metal concentration limit is exceeded for any metal, refer to Step 8.
! If the "conservative" kiln dust metal concentration limit is not exceeded, continue with the daily and/or weekly monitoring (Step (5) for the duration of interim status.
(6) This step does not apply to precompliance procedures.
(7) This step does not apply to precompliance procedures.
(8) If the "conservative" kiln dust metal concentration limit was exceeded for any metal in any single analysis of the "required" kiln dust sample, the "spare" samples corresponding to the same period may be analyzed to determine if the exceedance is due to a sampling or analysis error.
! If no "spare" samples were taken, refer to Step 9.
! If the average of all the samples for a given day (or week, as applicable) (including the "required" sample and the "spare"

samples) does not exceed the "conservative" kiln dust metal concentration limit, no corrective measures are necessary; continue with the daily and/or weekly monitoring as described in Step 5.

! If the average of all the samples for a given day (or week, as applicable) exceeds the "conservative" kiln dust metal concentration limit. but the average of the "spare" samples is below the "conservative" kiln dust metal concentration limit, apply the Q-test, described in Appendix A, to determine whether the "required" sample concentration can be judged as an outlier.

- If the "required" sample concentration is judged an outlier. no corrective measures are necessary; continue with the daily and/or weekly monitoring described in Step 5.
- If the "required" sample concentration is not judged an outlier, refer to Step 10.

(9) This step does not apply to precompliance procedures.

(10) Determine if the "conservative" kiln dust metal concentration limit has been exceeded more than three times in the last 60 days.

! If not, log this exceedance and continue with the daily and/or weekly monitoring (Step 5).

! If so, the tests to determine the enrichment factors must be repeated (refer to Step 11).

! This determination is made separately for each metal; for example:

- Three exceedances for each of the ten hazardous metals are allowed within any 60-day period.
- Four exceedances of any single metal in any 60-day period is not allowed.

! This determination should be made daily, beginning on the first day of daily monitoring. For example, if four exceedances of any single metal occur in the first four days of daily monitoring, do not wait until the end of the 60-day period; refer immediately to Step 11.

(11) A revised certification of precompliance must be submitted to the Department (or certification of compliance must be submitted) if: (1) More than three exceedances of the "conservative" kiln dust metal concentration limit occur within any 60 consecutive daily samples; or (2) an exceedance of the "conservative" kiln dust metal concentration limit occurs in any weekly sample.

! The facility must notify the Department if a revised certification of precompliance must be submitted.

! The facility has up to 720 waste-burning hours to submit a certification of compliance or a revised certification of precompliance. During this period, the feed rate of the metal in violation must be reduced by 50%. In the case of a revised certification of precompliance, engineering judgement must be used to ensure that the "conservative" kiln dust metal concentration will not be exceeded. Examples of how this goal might be accomplished include:

- Changing equipment or operating procedures to reduce the kiln dust metal concentration;

Changing equipment or operating procedures, or using more detailed engineering judgment, to decrease the estimated SEF and thus increase the "conservative" kiln dust metal concentration limit;

- Increasing the "conservative" kiln dust metal concentration limit by imposing a stricter PM emissions standard; or
- Increasing the "conservative" kiln dust metal concentration limit by performing a more detailed risk assessment to increase the metal emission limits.

! Meanwhile, the facility must continue with daily kiln dust metals monitoring (Step 5)

Precompliance Implementation Chart

Figure 10.6-

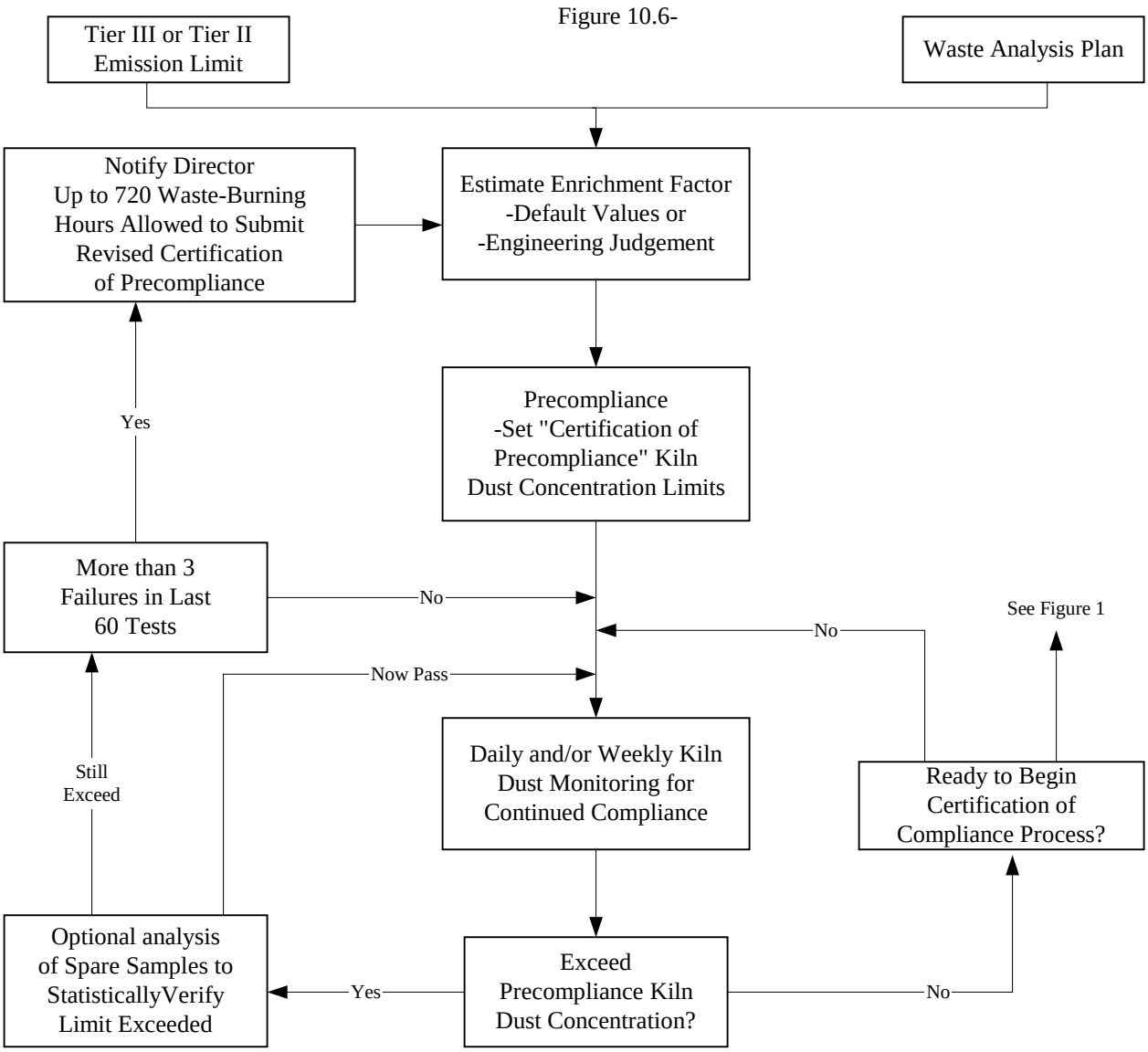


Figure 10.6-1 Precompliance implementation Flow Chart.

Appendix A to Appendix IX

A.1 Determination of Enrichment Factor

After at least 10 initial emissions tests are performed, an enrichment factor for each metal must be determined. At the 95% confidence level, the enrichment factor, $EF_{95\%}$s, is based on the test results and is statistically determined so there is only a 5% chance that the enrichment factor at any given time will be larger than $EF_{95\%}$. Similarly, at the 99% confidence level, the enrichment factor, $EF_{99\%}$, is statistically determined so there is only a 1% chance that the enrichment factor at any given time will be larger than $EF_{99\%}$.

For a large number of samples (n > 30), $EF_{95\%}$ is based on a normal distribution, and is equal to:

$$EF_{95\%} = EF + z_c\,\sigma \qquad (1)$$

where:

$$\overline{EF} = \frac{\sum_{i=1}^{n} EF_i}{n} \qquad (2),$$

$$\sigma = \left[\frac{\sum_{i=1}^{n} \left(EF_i - \overline{EF} \right)^2}{n} \right]^{1/2} \qquad (3)$$

For a 95% confidence level, z_c is equal to 1.645.

For a small number of samples (n < 30), $EF_{95\%}$ is based on the t - distribution and is equal to:

$EF_{95\%} = EF + t_c S$ (4)

where the standard deviation, S, is defined as:

$$S = \left[\frac{\sum_{i=1}^{n} \left(EF_i - \overline{EF} \right)^2}{n-1} \right]^{1/2} \quad (5)$$

t_c is a function of the number of samples and the confidence level that is desired. It increases in value as the sample size decreases and the confidence level increases. The 95% confidence level is used in this method to calculate the "violation" kiln dust metal concentration limit; and the 99% confidence level is sometimes used to calculate the "conservative" kiln dust metal concentration limit. Values of t_c are shown in table A-1 for various degrees of freedom (degrees of freedom = sample size-1) at the 95% and 99% confidence levels. As the sample size approaches infinity, the normal distribution is approached.

A.2 Comparison of Enrichment Factor Groups

To determine if the enrichment factors measured in the quarterly tests are significantly different from the enrichment factors determined in the initial Step 2 tests, the t-test is used. In this test, the value t_{meas}:

$$t_{meas} = \frac{\overline{EF_1} - \overline{EF_2}}{\sigma_t \left(\frac{1}{n_1} + \frac{1}{n_2} \right)^{1/2}} \quad (6)$$

Table A-1.-T-Distribution

n-1 or $n_1 + n_2$-2	$t_{.95}$	$t_{.99}$
1	6.31	31.82
2	2.92	6.96
3	2.35	4.54
4	2.13	3.75
5	2.02	3.36
6	1.94	3.14
7	1.90	3.00
8	1.86	2.90
9	1.83	2.82
10	1.81	2.76
11	1.80	2.72
12	1.78	2.68
13	1.77	2.65
14	1.76	2.62
15	1.75	2.60
16	1.75	2.58
17	1.74	2.57
18	1.73	2.55
19	1.73	2.54
20	1.72	2.53
25	1.71	2.48
30	1.70	2.46
40	1.68	2.42
60	1.67	2.39
120	1.66	2.36

$$\sigma_t = \left(\frac{(n_1 - 1) S_1^2 + (n_2 - 1) S_2^2}{n_1 + n_2 - 2} \right)^{1/2} \quad (7)$$

is compared to t_{crit} at the desired confidence level. The 95% confidence level is used in this method. Values of t_{crit} are shown in table A-1 for various degrees of freedom (degrees of freedom $n_1 + n_2 - 2$) at the 95% and 99% confidence levels. If t_{meas} is greater then t_{crit}, it can be concluded with 95% confidence that the two groups are not from the same population.

A.3 Rejection of Data

If the concentration of any hazardous metal in the "required" kiln dust sample exceeds the kiln dust metal concentration limit, the "spare" samples are analyzed. If the average of the combined "required" and "spare" values is still above the limit, a statistical test is used to decide if the upper value can be rejected.

The "Q-test" is used to determine if a data point can be rejected. The difference between the questionable result and its neighbor is divided by the spread of the entire data set. The resulting ratio, Q_{meas}, is then compared with rejection values that are critical for a particular degree of confidence, where Q_{meas} is:

$$\sigma_{meas} = \frac{DMC_{highest} - DMC_{next\ highest}}{DMC_{highest} - DMC_{lowest}} \quad (8)$$

The 90% confidence level for data rejection is used in this method. Table A-2 provides the values of Q_{crit} at the 90% confidence level. If Q_{meas} is larger than Q_{crit}, the data point can be discarded. Only one data point from a sample group can be rejected using this method.

Table A-2.-Critical Values for Use in the Q-Test

n	Q_{crit}
3	0.94
4	0.76
5	0.64
6	0.56
7	0.51
8	0.47
9	0.44
10	0.41

Appendix X - Guideline on Air Quality Models

[Removed 12/93]

Appendix XI - Lead-Bearing Materials That May be Processed in Exempt Lead Smelters

A. Exempt Lead-Bearing Materials When Generated or Originally Produced By Lead-Associated Industries[1]

Acid dump/fill solids

Sump mud

Materials from laboratory analyses

Acid filters

Baghouse bags

Clothing (e.g., coveralls, aprons, shoes, hats, gloves)

Sweepings
Air filter bags and cartridges
Respiratory cartridge filters
Shop abrasives
Stacking boards
Waste shipping containers (e.g., cartons, bags, drums, cardboard)
Paper hand towels
Wiping rags and sponges
Contaminated pallets
Water treatment sludges, filter cakes, residues, and solids
Emission control dusts, sludges, filter cakes, residues, and solids from lead-associated industries (e.g., K069 and D008 wastes)
Spent grids, posts, and separators
Spent batteries
Lead oxide and lead oxide residues
Lead plates and groups
Spent battery cases, covers, and vents
Pasting belts
Water filter media
Cheesecloth from pasting rollers
Pasting additive bags
Asphalt paving materials

[1]Lead-associated industries are lead smelters, lead- acid battery manufacturing, and lead chemical manufacturing (e.g., manufacturing of lead oxide or other lead compounds).

B. Exempt Lead-Bearing Materials When Generated or Originally Produced By Any Industry
Charging jumpers and clips
Platen abrasive
Fluff from lead wire and cable casings
Lead-based pigments and compounding pigment dust

Appendix XII - Nickel or Chromium-Bearing Materials that may be Processed in Exempt Nickel-Chromium Recovery Furnaces

A. Exempt Nickel or Chromium-Bearing Materials when Generated by Manufacturers or Users of Nickel, Chromium, or Iron
Baghouse bags
Raney nickel catalyst
Floor sweepings
Air filters
Electroplating bath filters
Wastewater filter media
Wood pallets
Disposable clothing (coveralls, aprons, hats, and gloves)
Laboratory samples and spent chemicals
Shipping containers and plastic liners from containers or vehicles used to transport nickel or chromium-containing wastes
Respirator cartridge filters
Paper hand towels

B. Exempt Nickel or Chromium-Bearing Materials when Generated by Any Industry
Electroplating wastewater treatment sludges (F006)
Nickel and/or chromium-containing solutions
Nickel, chromium, and iron catalysts
Nickel-cadmium and nickel-iron batteries
Filter cake from wet scrubber system water treatment plants in the specialty steel industry[1]
Filter cake from nickel-chromium alloy pickling operations[1]

[1]If a hazardous waste under an authorized State program.

Appendix XIII - Mercury-Bearing Wastes that may be Processed in Exempt Mercury Recoverable Units

These are exempt mercury-bearing materials with less than 500 ppm of 261, Appendix VIII organic constituents when generated by manufacturers or users of mercury or mercury products. (5/96)

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings
7. Respiratory cartridge filters
8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids
14. Recoverable levels of mercury contained in soil

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268 - Land Disposal Restrictions

Subpart A - GENERAL

268.1 Purpose, scope and applicability

(a) This part identifies hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

(b) Except as specifically provided otherwise in this part or R.61-79.261, the requirements of this part apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

(c) Restricted wastes may continue to be land disposed as follows: (11/90)

(1) Where persons have been granted an extension to the effective date of a prohibition under subpart C of R.61-79.268 or pursuant to section 268.5, with respect to those wastes covered by the extension;

(2) Where persons have been granted an exemption from a prohibition pursuant to a petition under section 268.6, with respect to those wastes and units covered by the petition;

(3) [Reserved]

(4) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited under this part, are not prohibited if the wastes meet any of the following criteria, unless the wastes are subject to a specified method of treatment other than DEACT in 268.40, or are D003 reactive cyanide: (9/98)

(i) The wastes are managed in a treatment system which subsequently discharges to waters of the U.S. pursuant to a permit issued under section R.61-9 and R.61-68; or

(ii) The wastes are treated for purposes of the pretreatment requirements of section R.61-9 and R.61-68; or

(iii) The wastes are managed in a zero discharge system engaged in Clean Water Act equivalent treatment as defined in 268.37(a); and

(iv) The wastes no longer exhibit a prohibited characteristic at the point of land disposal (i.e., placement in a surface impoundment).

(d) The requirements of this part shall not affect the availability of a waiver under section 121(d)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). (11/90, 12/92)

(e) The following hazardous wastes are not subject to any provision of part 268:

(1) Waste generated by small quantity generators of less than 100 kilograms of nonacute hazardous waste or less than 1 kilogram of acute hazardous waste per month, as defined in 261.5 (11/90);

(2) Waste pesticides that a farmer disposes of pursuant to 262.70 (11/90);

(3) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not promulgated land disposal prohibitions or treatment standards (11/90, 12/92).

(4) Deminimis losses of characteristic wastes to wastewaters are not considered to be prohibited wastes and are defined as losses from normal material handling operations (e.g. spills from the unloading or transfer of materials from bins or other containers, leaks from pipes, valves or other devices used to transfer materials); minor leaks of process equipment, storage tanks or containers; leaks from well maintained pump packings and seals; sample purgings; and relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; rinsate from empty containers or from containers that are rendered empty by that rinsing; and laboratory wastes not exceeding one per cent of the total flow of wastewater into the facility's headworks on an annual basis, or with a combined annualized average concentration not exceeding one part per million in the headworks of the facility's wastewater treatment or pretreatment facility; (12/93, 5/96, 9/98)

(5) [Removed 11/99]

(f) Universal waste handlers and universal waste transporters (as defined in 260.10) are exempt from 268.7 and 268.50 for the hazardous wastes listed below. These handlers are subject to regulation under part 273. (5/96)

(1) Batteries as described in 273.2;

(2) Pesticides as described in 273.3;

(3) Mercury containing equipment as described in 273.4; and (6/07)

(4) Lamps as described in 273.5. (8/00)

268.2 Definitions applicable in this part

When used in this part the following terms have the meanings given below: (11/90)

(a) "Halogenated organic compounds" or HOCs means those compounds having a carbon-halogen bond which are listed under Appendix III to this part. (11/90)

(b) "Hazardous constituent or constituents" means those constituents listed in Appendix VIII to R.61-79.261.

(c) "Land disposal" means placement in or on the land, except in a corrective action management unit, or staging pile, and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes. (11/90; 12/92; 12/93, 8/00)

(d) "Nonwastewaters" are wastes that do not meet the criteria for wastewaters in paragraph (f) of this section. (11/90; 12/92; 12/93)

(e) "Polychlorinated biphenyls" or PCB's are halogenated organic compounds defined in accordance with 40 CFR 761.3. (11/90; moved 12/93)

(f) "Wastewaters" are wastes that contain less than 1 % by weight total organic carbon (TOC) and less than 1 % by weight total suspended solids (TSS).(11/90, 12/93, 9/98)

(g) "Debris" means solid material exceeding a 60 mm particle size that is intended for disposal and that is: a manufactured object; or plant or animal matter; or natural geologic material. However, the following materials are not debris: any material for which a specific treatment standard is provided in subpart D, part 268, namely lead acid batteries, cadmium batteries, and radioactive lead solids; process residuals such as smelter slag and residues from the treatment of waste, wastewater, sludges, or air emission residues; and intact containers of hazardous waste that are not ruptured and that retain at least 75% of their original volume. A mixture of debris that has not been treated to the standards provided by 268.45 and other material is subject to regulation as debris if the mixture is comprised primarily of debris, by volume, based on visual inspection. (12/93, 5/96)

(h) "Hazardous debris" means debris that contains a hazardous waste listed in subpart D of part 261, or that exhibits a characteristic of hazardous waste identified in subpart C of part 261. Any deliberate mixing of prohibited hazardous waste with debris that changes its treatment classification (i.e., from waste to hazardous debris) is not allowed under the dilution prohibition in 268.3. (12/93, 8/00)

(i) "Underlying hazardous constituent" means any constituent listed in 268.48, Table UTS - Universal Treatment Standards, except fluoride, selenium, sulfides, vanadium, and zinc, which can reasonably be expected to be present at the point of generation of the hazardous waste, at a concentration above the constituent-specific UTS treatment standard. (12/93, 5/96, 9/98, 11/99)

(j) "Inorganic metalbearing waste" is one for which EPA has established treatment standards for metal hazardous constituents, and which does not otherwise contain significant organic or cyanide content as described in 268.3(c)(1), and is specifically listed in Appendix XI of this part. (9/98)

(k) Soil means unconsolidated earth material composing the superficial geologic strata (material overlying bedrock), consisting of clay, silt, sand, or gravel size particles as classified by the U.S. Natural Resources Conservation Service, or a mixture of such materials with liquids, sludges or solids which is inseparable by simple mechanical removal processes and is made up primarily of soil by volume based on visual inspection. Any deliberate mixing of prohibited hazardous waste with soil that changes its treatment classification (i.e., from waste to contaminated soil) is not allowed under the dilution prohibition in 268.3. (11/99, 8/00)

268.3 Dilution prohibited as a substitute for treatment

(a) Except as provided in paragraph (b) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subpart D of this part, to circumvent the effective date of a prohibition in subpart C of this part, to otherwise avoid a prohibition in subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA section 3004. (11/90, 12/92)

(b) Dilution of wastes that are hazardous only because they exhibit a characteristic in treatment systems which include land based units which treat wastes subsequently discharged to a water of the United States pursuant to a permit issued under section R.61-9 and R.61-68, or which treat wastes in a CWA equivalent treatment system, or which treat wastes for the purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method other than DEACT has been specified in 268.40 as the treatment standard in 268.42, or unless the waste is a D003 reactive cyanide wastewater or nonwastewater. (12/92, 12/93, 9/98)

(c) Combustion of the hazardous waste codes listed in Appendix XI of this part is prohibited, unless the waste, at the point of generation, or after any bona fide treatment such as cyanide destruction prior to combustion, can be demonstrated to comply with one or

more of the following criteria (unless otherwise specifically prohibited from combustion): (9/98)

(1) The waste contains hazardous organic constituents or cyanide at levels exceeding the constituent-specific treatment standard found in 268.48;

(2) The waste consists of organic, debris-like materials (e.g., wood, paper, plastic, or cloth) contaminated with an inorganic metal-bearing hazardous waste;

(3) The waste, at point of generation, has reasonable heating value such as greater than or equal to 5000 BTU per pound;

(4) The waste is cogenerated with wastes for which combustion is a required method of treatment;

(5) The waste is subject to Federal and/or State requirements necessitating reduction of organics (including biological agents); or

(6) The waste contains greater than 1% Total Organic Carbon (TOC).

(d) It is a form of impermissible dilution, and therefore prohibited, to add iron filings or other metallic forms of iron to lead-containing hazardous wastes in order to achieve any land disposal restriction treatment standard for lead. Lead-containing wastes include D008 wastes (wastes exhibiting a characteristic due to the presence of lead), all characteristic wastes containing lead as an underlying hazardous constituent, listed wastes containing lead as a regulated constituent, and hazardous media containing any of the aforementioned lead-containing wastes. (11/99)

268.4 Treatment surface impoundment exemption

(a) Wastes which are otherwise prohibited from land disposal under this part may be treated in a surface impoundment or series of impoundments provided that: (11/90)

(1) Treatment of such wastes occurs in the impoundments;

(2) The following conditions are met: (11/90)

(i) Sampling and testing. For wastes with treatment standards in subpart D of this part and/or prohibition levels in subpart C of this part or RCRA section 3004(d), the residues from treatment are analyzed, as specified in 268.7 or 268.32, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under 264.13 or 265.13, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

(ii) Removal. The following treatment residues (including any liquid waste) must be removed at least annually: residues which do not meet the treatment standards promulgated under subpart D of this part; residues which do not meet the prohibition levels established under subpart C of this part or imposed by statute (where no treatment standards have been established); residues which are from the treatment of wastes prohibited from land disposal under subpart C of this part (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under 260.22. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement. (11/99)

(iii) Subsequent management. Treatment residues may not be placed in any other surface impoundment for subsequent management. (11/99)

(iv) Recordkeeping: Sampling and testing and recordkeeping provisions of 264.13 and 265.13 of this chapter apply. (9/98)

(3) The impoundment meets the design requirements of 264.221(c) or 265.221(a), regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable groundwater monitoring requirements of subpart F of part 264 or part 265 unless: (11/90)

(i) Exempted pursuant to 264.221 (d) or (e), or to 265.221 (c) or (d); or,

(ii) Upon application by the owner or operator, the Department, after notice and an opportunity to comment, has granted a waiver of the requirements on the basis that the surface impoundment:

(A) Has at least one liner, for which there is no evidence that such liner is leaking;

(B) Is located more than one-quarter mile from an underground source of drinking water; and

(C) Is in compliance with generally applicable groundwater monitoring requirements for facilities with permits; or,

(iii) Upon application by the owner or operator, the Department, after notice and an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into groundwater or surface water at any future time.

(4) The owner or operator submits to the Department a written certification that the requirements of 268.4(a)(3) have been met and submits a copy of the waste analysis plan required under 268.4(a)(2). The following certification is required: (11/90)

I certify under penalty of law that the requirements of 268.4(a)(3) have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(b) Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section. (11/90)

268.5 Procedures for case-by-case extensions to an effective date

(a) Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the Department and the EPA for an extension to the effective date of any applicable restriction established under subpart C of this part. The applicant must demonstrate the following: (12/93)

(1) He has made a good-faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage his waste in accordance with the effective date of the applicable restriction established under subpart C of this part;

(2) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in subpart D or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment. (11/90)

(3) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

(4) The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

(5) He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

(6) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(7) Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of this section.

(b) An authorized representative signing an application described under paragraph (a) of this section shall make the following certification:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(c) After receiving an application for an extension, the Department and EPA may request any additional information which it deems as necessary to evaluate the application. (12/93)

(d) An extension will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

(e) On the basis of the information referred to in paragraph (a) of this section, after notice and opportunity for comment, and after consultation with appropriate State and federal agencies, the Department and the EPA may grant an extension of up to 1 year from the effective date. The Department and the EPA may renew this extension for up to 1 additional year upon the request of the applicant if the demonstration required in paragraph (a) of this section can still be made. In no event will an extension extend beyond 24 months from the applicable effective date specified in subpart C of R.61-79.268. The length of any extension authorized will be determined by the Department and the EPA based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in paragraph (a)(5) of this section. The Department and the EPA will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the Federal Register. (11/90, 12/92)

(f) Any person granted an extension under this section must immediately notify the Department and EPA as soon as he has knowledge of any change in the conditions certified to in the application. (12/92).

(g) Any person granted an extension under this section shall submit written progress reports at intervals designated by the Department and EPA. Such reports must describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; must identify any event which may cause or has caused a delay in the development of the capacity; and must summarize the steps taken to mitigate the delay. The Department and EPA can revoke the extension at any time if the applicant does not demonstrate a good-faith effort to meet the schedule for completion, if the Department and EPA denies or revokes any required permit, if conditions certified in the application change, or for any violation. (12/92)

(h) Whenever the Department and EPA establishes an extension to an effective date under this section, during the period for which such extension is in effect: (11/90, 12/92)

(1) The storage restrictions under R.61-79.268.50(a) do not apply; and

(2) Such hazardous waste may be disposed in a landfill or surface impoundment only if such unit is in compliance with the technical requirements of the following provisions regardless of whether such unit is existing, new, or a replacement or lateral expansion.

(i) The landfill, if in interim status, is in compliance with the requirements of subpart F of R.61-79.265 and R.61-79.265.301 (a), (c), and (d); or, (12/93)

(ii) The landfill, if permitted, is in compliance with the requirements of subpart F of R.61-79.264 and R.61-79.264.301 (c), (d) and (e); or (12/93)

(iii) The surface impoundment, if in interim status, is in compliance with the requirements of subpart F of R.61-79.265, R.61-79.265.221 (a), (c), and (d), and RCRA section 3005(j)(1);or (12/92, 12/93)

(iv) The surface impoundment, if permitted, is in compliance with the requirements of subpart F of part 264 and R.61-79.264.221 (c), (d) and (e); or (12/93)

(v) The surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics for the identification of hazardous waste, is in compliance with the requirements of subpart F of part 265 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of 265.221 (a), (c) and (d) within 48 months after the promulgation of additional listings or characteristics of hazardous waste. If a national capacity variance is granted, during the period the variance is in effect, the surface impoundment, if newly subject to RCRA section 3005(j)(1) due to the promulgation of additional listings or characteristics of hazardous waste, is in compliance with the requirements of subpart F of part 265 within 12 months after the promulgation of additional listings or characteristics of hazardous waste, and with the requirements of 265.221 (a), (c) and (d) within 48 months after the promulgation of additional listings or characteristics of hazardous waste; or (12/93)

(vi) The landfill, if disposing of containerized liquid hazardous wastes containing PCB's at concentrations greater than or equal to 50 ppm but less than 500 ppm, is also in compliance with the requirements of 40 CFR 761.75 and parts 264 and 265.

(i) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

268.6 Petitions to allow land disposal of a waste prohibited under subpart C of part 268

(a) Any person seeking an exemption from a prohibition under subpart C of this part for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the Department and the EPA demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components: (12/92)

(1) An identification of the specific waste and the specific unit for which the demonstration will be made;

(2) A waste analysis to describe fully the chemical and physical characteristics of the subject waste;

(3) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality;

(4) A monitoring plan that detects migration at the earliest practicable time; (11/90)

(5) Sufficient information to assure the Department and the EPA that the owner or operator of a land disposal unit receiving restricted waste(s) will comply with other applicable Federal, State, and local laws. (11/90, 12/92)

(b) The demonstration referred to in paragraph (a) of this section must meet the following criteria: (12/93)

(1) All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;

(2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the Department and EPA; (12/92)

(3) Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

(4) A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the Department and EPA; and, (12/92)

(5) An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

(c) Each petition referred to in paragraph (a) of this section must include the following: (11/90)

(1) A monitoring plan that describes the monitoring program installed at and/or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit and/or the environment around the unit. The following specific information must be included in the plan:

(i) The media monitored in the cases where monitoring of the environment around the unit is required;

(ii) The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;

(iii) The location of the monitoring stations;

(iv) The monitoring interval (frequency of monitoring at each station);

(v) The specific hazardous constituents to be monitored;

(vi) The implementation schedule for the monitoring program;

(vii) The equipment used at the monitoring stations;

(viii) The sampling and analytical techniques employed; and

(ix) The data recording/reporting procedures.

(2) Where applicable, the monitoring program described in paragraph (c)(1) of this section must be in place for a period of time specified by the Department and EPA, as part of his approval of the petition, prior to receipt of prohibited waste at the unit. (12/92)

(3) The monitoring data collected according to the monitoring plan specified under paragraph (c)(1) of this section must be sent to the Department and EPA according to a format and schedule specified and approved in the monitoring plan, (12/92) and

(4) A copy of the monitoring data collected under the monitoring plan specified under paragraph (c)(1) of this section must be kept onsite at the facility in the operating record.

(5) The monitoring program specified under paragraph (c)(1) of this section meets the following criteria:

(i) All sampling, testing, and analytical data must be approved by the Department and EPA and must provide data that is accurate and reproducible. (12/92)

(ii) All estimation and monitoring techniques must be approved by the Department and EPA. (12/92)

(iii) A quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the Department and EPA. (12/92)

(d) Each petition must be submitted to the Department and EPA. (11/90, 12/92)

(e) After a petition has been approved, the owner or operator must report any changes in conditions at the unit and/or the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows: (11/90)

(1) If the owner or operator plans to make changes to the unit design, construction, or operation, such a change must be proposed, in writing, and the owner or operator must submit a demonstration to the Department and EPA at least 30 days prior to making the change. The Department and EPA will determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any change must be approved by the Department and EPA prior to being made. (12/92)

(2) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the Department and EPA within 10 days of discovering the change. The Department and EPA will determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses. (12/92)

(f) If the owner or operator determines that there is migration of hazardous constituent(s) from the unit, the owner or operator must: (11/90)

(1) Immediately suspend receipt of prohibited waste at the unit, (12/92) and

(2) Notify the Department and EPA, in writing, within 10 days of the determination that a release has occurred. (12/92)

(3) Following receipt of the notification the Department and EPA will determine, within 60 days of receiving notification, whether the owner or operator can continue to receive prohibited waste in the unit and whether the variance is to be revoked. The Department and EPA shall also determine whether further examination of any migration is warranted under applicable provisions of part 264 or part 265. (12/92)

(g) Each petition must include the following statement signed by the petitioner or an authorized representative: (moved 11/90)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(h) After receiving a petition, the Department and EPA may request any additional information that reasonably may be required to evaluate the demonstration. (moved 11/90, 12/92)

(i) If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit. (moved 11/90)

(j) The Department and EPA will give public notice in the State Register and the Federal Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the State Register. (moved 11/90; 12/92; 12/93)

(k) The term of a petition granted under this section shall be no longer than the term of the RCRA permit if the disposal unit is operating under a RCRA permit, or up to a maximum of 10 years from the date of approval provided under paragraph (j) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a RCRA permit, or upon the termination of

interim status or when the volume limit of waste to be land disposed during the term of petition is reached. (11/90, 12/92)

(l) Prior to the Department and EPA's decision, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached. (12/92)

(m) The petition granted by the Department and EPA does not relieve the petitioner of his responsibilities in the management of hazardous waste under R.61-79.260 through part 270. (moved 11/90, edited 12/92)

(n) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this section. (11/90)

268.7 Testing, tracking, and recordkeeping requirements for generators, treaters, and disposal facilities

(11/90, 5/96, 9/98)

(a) Requirements for generators: (9/98)

(1) A generator of hazardous waste must determine if the waste has to be treated before it can be land disposed. This is done by determining if the hazardous waste meets the treatment standards in 268.40, 268.45, or 268.49. This determination can be made concurrently with the hazardous waste determination required in 262.11, in either of two ways: testing the waste or using knowledge of the waste. If the generator tests the waste, testing would normally determine the total concentration of hazardous constituents, or the concentration of hazardous constituents in an extract of the waste obtained using test method 1311 in ‘‘Test Methods of Evaluating Solid Waste, Physical/Chemical Methods, ’’ EPA Publication SW–846, (incorporated by reference, see 260.11), depending on whether the treatment standard for the waste is expressed as a total concentration or concentration of hazardous constituent in the waste's extract. (Alternatively, the generator must send the waste to a RCRA-permitted hazardous waste treatment facility, where the waste treatment facility must comply with the requirements of 264.13 of this chapter and paragraph (b) of this section.) In addition, some hazardous wastes must be treated by particular treatment methods before they can be land disposed and some soils are contaminated by such hazardous wastes. These treatment standards are also found in 268.40, and are described in detail in 268.42, Table 1. These wastes, and soils contaminated with such wastes, do not need to be tested (however, if they are in a waste mixture, other wastes with concentration level treatment standards would have to be tested). If a generator determines they are managing a waste or soil contaminated with a waste, that displays a hazardous characteristic of ignitability, corrosivity, reactivity, or toxicity, they must comply with the special requirements of 268.9 of this part in addition to any applicable requirements in this section. (11/99, 8/00, 9/01, 6/08)

(2) If the waste or contaminated soil does not meet the treatment standards, or if the generator chooses not to make the determination of whether his waste must be treated, with the initial shipment of waste to each treatment or storage facility, the generator must send a one-time written notice to each treatment or storage facility receiving the waste, and place a copy in the file. The notice must include the information in column ‘‘268.7(a)(2)’’ of the Generator Paperwork Requirements Table in paragraph (a)(4) of this section. (Alternatively, if the generator chooses not to make the determination of whether the waste must be treated, the notification must include the EPA Hazardous Waste Numbers and Manifest Number of the first shipment and must state ‘‘This hazardous waste may or may not be subject to the LDR treatment standards. The treatment facility must make the determination.’’) No further notification is necessary until such time that the waste or facility change, in which case a new notification must be sent and a copy placed in the generator's file. (8/00, 6/08)

(i) For contaminated soil, the following certification statement should be included, signed by an authorized representative:

I certify under penalty of law that I personally have examined this contaminated soil and it [does/does not] contain listed hazardous waste and [does/does not] exhibit a characteristic of hazardous waste and requires treatment to meet the soil treatment standards as provided by 268.49(c).

(ii) [Reserved]

(3) If the waste or contaminated soil meets the treatment standard at the original point of generation: (11/99)

(i) With the initial shipment of waste to each treatment, storage, or disposal facility, the generator must send a onetime written notice to each treatment, storage, or disposal facility receiving the waste, and place a copy in the file. The notice must include the information indicated in column "268.7(a)(3)" of the Generator Paperwork Requirements Table in 268.7(a)(4) and the following certification statement, signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in part 268, subpart DI believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

(ii) For contaminated soil, with the initial shipment of wastes to each treatment, storage, or disposal facility , the generator must send a one-time written notice to each facility receiving the waste and

place a copy in the file. The notice must include the information in column "268.7(a)(3)" of the Generator Paperwork Requirements Table in 268.7(a)(4). (11/99)

(iii) If the waste changes, the generator must send a new notice and certification to the receiving facility, and place a copy in their files. Generators of hazardous debris excluded from the definition of hazardous waste under 261.3(f) of this chapter are not subject to these requirements. (9/01)

(4) For reporting, tracking, and recordkeeping when exceptions allow certain wastes or contaminated soil that do not meet the treatment standards to be land disposed: There are certain exemptions from the requirement that hazardous wastes or contaminated soil meet treatment standards before they can be land disposed. These include, but are not limited to case-by-case extensions under 268.5, disposal in a no-migration unit under 268.6, or a national capacity variance or case-by-case capacity variance under subpart C of this part. If a generator's waste is so exempt, then with the initial shipment of waste, the generator must send a one-time written notice to each land disposal facility receiving the waste. The notice must include the information indicated in column 268.7(a)(4) of the Generator Paperwork Requirements Table below. If the waste changes, the generator must send a new notice to the receiving facility, and place a copy in their files. (11/90, 12/92; 5/96, 9/98, 11/99)

Generator Paperwork Requirements Table 268.7(a)(4)

Required information (9/98, 11/99, 8/00)	268.7(a)(2)	268.7(a)(3)	268.7(a)(4)	268.7(a)(9)
1. EPA Hazardous Waste and Manifest numbers and Manifest Number of first shipment	x	x	x	x
2. Statement: this waste is not prohibited from land disposal			x	
3. The waste is subject to the LDRs. The constituents of concern for F001-F005, and F039, and underlying hazardous constituents in characteristic wastes, unless the waste will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	x	x		
4. The notice must include the applicable wastewater/nonwastewater category (see 268.2(d) and (f)) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide)	x	x		
5. Waste analysis data (when available)	x	x	x	
6. Date the waste is subject to the prohibition			x	
7. For hazardous debris, when treating with the alternative treatment technologies provided by 268.45: the contaminants subject to treatment, as described in 268.45(b); and an indication that these contaminants are being treated to comply with 268.45	x		x	
8. For contaminated soil subject to LDRs as provided in 268.49(a) the constituents subject to treatment as described in 268.49(d) and the following statement: This contaminated soil (does/does not) contain listed hazardous waste and (does/does not) exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by 268.49(c) or the universal treatment standards	x	x		
9. A certification is needed (see applicable section for exact wording)		x		x

(5) If a generator is managing and treating prohibited waste or contaminated soil in tanks, containers, or containment buildings regulated under 262.34 to meet applicable LDR treatment standards found at 268.40, the generator must develop and follow a written waste analysis plan which describes the procedures they will carry out to comply with the treatment standards. (Generators treating hazardous debris under the alternative treatment standards of Table 1, 268.45, however, are not subject to these waste analysis requirements.) The plan must be kept onsite in the generator's records, and the following requirements must be met: (12/92, 12/93, 9/98, 11/99)

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this Part, including the selected testing frequency.

(ii) Such plan must be kept in the facility's onsite files and made available to inspectors.

(iii) Wastes shipped offsite pursuant to this paragraph must comply with the notification requirements of 268.7(a)(3).

(6) If a generator determines that the waste or contaminated soil is restricted based solely on his knowledge of the waste, all supporting data used to make this determination must be retained onsite in the generator's files. If a generator determines that the waste is restricted based on testing this waste or an extract developed using the test method 1311 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW846, as referenced in 260.11 of this chapter, and all waste analysis data must be retained onsite in the generator's files. (9/98, 11/99)

(7) If a generator determines that he is managing a prohibited waste that is excluded from the definition of hazardous or solid waste or is exempted from Subtitle C regulation under 261.2 through 261.6 subsequent to the point of generation (including deactivated characteristic hazardous wastes managed in wastewater treatment systems subject to the Clean Water Act (CWA) as specified at 261.4(a)(2), or are CWA equivalent), or are managed in an underground injection well regulated by R.61-9 and R.61-68), he must place a one-time notice describing such generation, subsequent exclusion from the definition of hazardous or solid waste or exemption from RCRA Subtitle C regulation, and the disposition of the waste, in the facility's on-site files. (12/92, 9/98, 11/99)

(8) Generators must retain onsite a copy of all notices, certifications, waste analysis data, and other documentation produced pursuant to this section for at least three years from the date that the waste that is the subject of such documentation was last sent to onsite or offsite treatment, storage, or disposal. The three year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department. The requirements of this paragraph apply to solid wastes even when the hazardous characteristic is removed prior to disposal, or when the waste is excluded from the definition of hazardous or solid waste under 261.2 through 261.6, or exempted from Subtitle C regulation, subsequent to the point of generation. (12/92, 9/98)

(9) If a generator is managing a lab pack containing hazardous wastes and wishes to use the alternative treatment standard for lab packs found at 268.42(c): (9/98)

(i) With the initial shipment of waste to a treatment facility, the generator must submit a notice that provides the information in column "268.7(a)(9)" in the Generator Paperwork Requirements Table of paragraph (a)(4) of this section, and the following certification. The certification, which must be signed by an authorized representative and must be placed in the generator's files, must say the following: (12/92; 5/96)

"I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only wastes that have not been excluded under Appendix IV to part 268 and that this lab pack will be sent to a combustion facility in compliance with the alternative treatment standards for lab packs at 268.42(c). I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment." (12/92; 5/96, 11/99)

(ii) No further notification is necessary until such time that the wastes in the lab pack change, or the receiving facility changes, in which case a new notice and certification must be sent and a copy placed in the generator's file.

(iii) If the lab pack contains characteristic hazardous wastes (D001 - D043), underlying hazardous constituents (as defined in 268.2(i)) need not be determined.

(iv) The generator must also comply with the requirements in paragraphs(a)(6) and (a)(7) of this section.

(10) Small quantity generators with tolling agreements pursuant to 262.20(e) must comply with the applicable notification and certification requirements of paragraph (a) of this section for the initial shipment of the waste subject to the agreement. Such generators must retain on-site a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or

expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Department. (11/99)

(b) Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by 264.13 (for permitted TSDs) or 265.13 (for interim status facilities). Such testing must be performed as provided in paragraphs (b)(1), (b)(2) and (b)(3) of this section. (9/98)

(1) For wastes or contaminated soils with treatment standards expressed in the waste extract (TCLP) the owner or operator of the treatment facility must test an extract of the treatment residues, using test method 1311 (the Toxicity Characteristic Leaching Procedure, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846 as incorporated by reference in 260.11 of this chapter), to assure that the treatment residues extract meet the applicable treatment standards. (9/98, 11/99)

(2) For wastes or contaminated soils with treatment standards expressed as concentrations in the waste, the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that they meet the applicable treatment standards. (9/98, 11/99)

(3) A one-time notice must be sent with the initial shipment of waste or contaminated soils to the land disposal facility. A copy of the notice must be placed in the treatment facility's file. (9/98, 11/99)

(i) No further notification is necessary until such time that the waste or receiving facility change, in which case a new notice must be sent and a copy placed in the treatment facility's file.

(ii) The onetime notice must include these requirements:

Treatment Facility Paperwork Requirements Table 268.7 (9/98, 11/99, 8/00)	268.7(b)
1. EPA Hazardous Waste and Manifest numbers and Manifest Number of first shipment	x
2. The waste is subject to the LDRs. The constituents of concern for F001-F005 and F039 and underlying constituents in characteristic wastes, unless the wastes will be treated and monitored for all constituents. If all constituents will be treated and monitored, there is no need to put them all on the LDR notice	x
3. The notice must include the applicable wastewater/nonwastewater category (see 268.2(d) and (f) and subdivisions made within a waste code based on waste-specific criteria (such as D003 reactive cyanide).	x
4. Waste analysis data (when available)	x
5. For contaminated soil subject to LDRs as provided in 268.49(a), the constituents subject to treatment as described in 268.49(d) and the following statement: "This contaminated soil [does/does not] exhibit a characteristic of hazardous waste and [is subject to/complies with] the soil treatment standards as provided by 268.49(c)"	x
6. A certification is needed (see applicable section for exact wording)	x

(4) The treatment facility must submit a onetime certification signed by an authorized representative with the initial shipment of waste or treatment residue of a restricted waste to the land disposal facility. A certification is also necessary for contaminated soil and it must state: (9/98, 11/99

"I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and believe that it has been maintained and operated properly so as to comply with treatment standards specified in 268.49 without impermissible dilution of the prohibited wastes. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (11/99)

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the treatment standards specified in 268.40 without impermissible dilution of the prohibited waste. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. " (12/93, 9/98)

(i) A copy of the certification must be placed in the treatment facility's onsite files. If the waste or treatment residue changes, or the receiving facility changes, a new certification must be sent to the receiving facility, and a copy placed in the file. (12/92, 11/99)

(ii) Debris excluded from the definition of hazardous waste under 261.3(f) of this chapter (i.e., debris treated by an extraction or destruction technology provided by Table 1, 268.45, and debris that the Director has determined does not contain hazardous waste), however, is subject to the notification and certification requirements of paragraph (d) of this section rather than the certification requirements of this paragraph.

(iii) For wastes with organic constituents having treatment standards expressed as concentration levels, if compliance with the treatment standards is based in whole or in part on the analytical detection limit alternative specified in 268.40(d), the certification,

signed by an authorized representative, must state the following: (12/92, 9/98)

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification. Based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by combustion units as specified in 268.42, Table 1. I have been unable to detect the nonwastewater organic constituents, despite having used best good faith efforts to analyze for such constituents. I am aware there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment. (9/98)

(iv) For characteristic wastes that are subject to the treatment standards in 268.40 (other than those expressed as a method of treatment), or 268.49, and that are reasonably expected to contain underlying hazardous constituents as defined in 268.2(i); if these wastes are treated on-site to remove the hazardous characteristic; and are then sent off-site for treatment of underlying hazardous constituents, the certification must state the following: (11/99, 8/00)

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 268.40 or 268.49 to remove the hazardous characteristic. This decharacterized waste contains underlying hazardous constituents that require further treatment to meet universal treatment standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment." (8/00)

(v) For characteristic wastes that contain underlying hazardous constituents as defined 268.2(i) that are treated on-site to remove the hazardous characteristic to treat underlying hazardous constituents to levels in 268.48 Universal Treatment Standards, the certification must state the following: (11/99)

"I certify under penalty of law that the waste has been treated in accordance with the requirements of 268.40 to remove the hazardous characteristic and that underlying hazardous constituents, as defined in 268.2(i) have been treated on-site to meet the 268.48 Universal Treatment Standards. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment."

(5) If the waste or treatment residue will be further managed at a different treatment or storage or disposal facility, the treatment, storage or disposal facility sending the waste or treatment residue offsite must comply with the notice and certification requirements applicable to generators under this section. (9/98, 11/99)

(6) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of 266.20(b) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (*i.e.*, the recycler) must, for the initial shipment of waste, prepare a one-time certification described in paragraph (b)(4) of this section, and a one-time notice which includes the information in paragraph (b)(3) of this section (except the manifest number). The certification and notification must be placed in the facility's on-site files. If the waste or the receiving facility changes, a new certification and notification must be prepared and placed in the on site files. In addition, the recycling facility must also keep records of the name and location of each entity receiving the hazardous waste-derived product. (12/92,11/99, 6/08)

(c) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to 266.20(b), the owner or operator of any land disposal facility disposing any waste subject to restrictions under this part must: (9/98)

(1) Have copies of the notice and certifications specified in paragraph (a) or (b) of this section.

(2) Test the waste, or an extract of the waste or treatment residue developed using test method 1311 (the Toxicity Characteristic Leaching Procedure), described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW846 as incorporated by reference in 260.11 of this chapter, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in subpart D of this part. Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by 264.13 or 265.13 of this chapter.

(d) Generators or treaters who first claim that hazardous debris is excluded from the definition of hazardous waste under 261.3(f) of this chapter (i.e., debris treated by an extraction or destruction technology provided by Table 1, 268.45, and debris that the Department has determined does not contain hazardous waste) are subject to the following notification and certification requirements: (9/98, 6/04)

(1) A onetime notification, including the following information, must be submitted to the Department to implement part 268 requirements: (12/93,5/96)

(i) The name and address of the Subtitle D facility receiving the treated debris;

(ii) A description of the hazardous debris as initially generated, including the applicable EPA Hazardous Waste Number(s); and

(iii) For debris excluded under 261.3(f)(1), the technology from Table 1, 268.45, used to treat the debris.

(2) The notification must be updated if the debris is shipped to a different facility, and, for debris excluded under 261.3(f)(1), if a different type of debris

is treated or if a different technology is used to treat the debris. (12/93)

(3) For debris excluded under 261.3(f)(1), the owner or operator of the treatment facility must document and certify compliance with the treatment standards of Table 1, 268.45, as follows: (12/93)

(i) Records must be kept of all inspections, evaluations, and analyses of treated debris that are made to determine compliance with the treatment standards;

(ii) Records must be kept of any data or information the treater obtains during treatment of the debris that identifies key operating parameters of the treatment unit; and

(iii) For each shipment of treated debris, a certification of compliance with the treatment standards must be signed by an authorized representative and placed in the facility's files. The certification must state the following: "I certify under penalty of law that the debris has been treated in accordance with the requirements of 268.45. I am aware that there are significant penalties for making a false certification, including the possibility of fine and imprisonment."

(e) Generators and treaters who first receive from EPA or an authorized state a determination that a given contaminated soil subject to LDRs as provided in 268.49(a) no longer contains a listed hazardous waste and generators and treaters who first determine that a contaminated soil subject to LDRs as provided in 268.49(a) no longer exhibits a characteristic of hazardous waste must:

(1) Prepare a one-time only documentation of these determinations including all supporting information; and,

(2) Maintain that information in the facility files and other records for a minimum of three years.

268.8 [Reserved 9/98]

268.9 Special rules regarding wastes that exhibit a characteristic
(12/92; 5/96)

(a) The initial generator of a solid waste must determine each EPA Hazardous Waste Number (waste code) applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. This determination may be made concurrently with the hazardous waste determination required in 262.11. For purposes of part 268, the waste will carry the waste code for any applicable listed waste (40 CFR part 261, subpart D). In addition, where the waste exhibits a characteristic, the waste will carry one or more of the characteristic waste codes (40 CFR part 261, subpart C), except when the treatment standard for the listed waste operates in lieu of the treatment standard for the characteristic waste, as specified in paragraph (b) of this section. If the generator determines that their waste displays a hazardous characteristic (and is not D001 nonwastewaters treated by CMBST, RORGS, OR POLYM of 268.42, Table 1), the generator must determine the underlying hazardous constituents (as defined at 268.2(i)) in the characteristic waste. .(9/98, 6/08)

(b) Where a prohibited waste is both listed under part 261, subpart D and exhibits a characteristic under part 261, subpart C, the treatment standard for the waste code listed in part 261, subpart D will operate in lieu of the standard for the waste code under part 261, subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 261 subpart C may be land disposed unless the waste complies with the treatment standards under subpart D of this part.

(d) Wastes that exhibit a characteristic are also subject to 268.7 requirements, except that once the waste is no longer hazardous, a one-time notification and certification must be placed in the generator’s or treater’s on-site files. The notification and certification must be updated if the process or operation generating the waste changes and/or if the subtitle D facility receiving the waste changes. (12/93, 6/08)

(1) The notification must include the following information:

(i) Name and address of the RCRA Subtitle D facility receiving the waste shipment; and (12/93, 9/98)

(ii) A description of the waste as initially generated, including the applicable EPA hazardous waste code(s), treatability group(s), and underlying hazardous constituents (as defined in 268.2(i)), unless the waste will be treated and monitored for all underlying hazardous constituents. If all underlying hazardous constituents will be treated and monitored, there is no requirement to list any of the underlying hazardous constituents on the notice. (12/93, 5/96, 9/98)

(iii) Reserved (5/96)

(2) The certification must be signed by an authorized representative and must state the language found in 268.7(b)(4). (12/93, 8/00)

(i) If treatment removes the characteristic but does not treat underlying hazardous constituents, then the certification found in 268.7 (b)(5)(iv) applies. (5/96)

(ii) [Reserved 5/96]

Subpart B - SCHEDULE FOR LAND DISPOSAL PROHIBITION AND ESTABLISHMENT OF TREATMENT STANDARDS

268.10 - 268.12 [Reserved 9/98]

268.13 Schedule for wastes identified or listed after November 8, 1984

In the case of any hazardous waste identified or listed under SCHWMA 44-56-30 or RCRA section 3001 after November 8, 1984, the Department shall make a land disposal prohibition determination within 6 months after the date of identification or listing. (12/92)

268.14 Surface impoundment exemptions

(12/93)

(a) This section defines additional circumstances under which an otherwise prohibited waste may continue to be placed in a surface impoundment.

(b) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and stored in a surface impoundment that is newly subject to subtitle C of RCRA as a result of the additional identification or listing, may continue to be stored in the surface impoundment for 48 months after the promulgation of the additional listing or characteristic, notwithstanding that the waste is otherwise prohibited from land disposal, provided that the surface impoundment is in compliance with the requirements of subpart F of part 265 within 12 months after promulgation of the new listing or characteristic.

(c) Wastes which are newly identified or listed under section 3001 after November 8, 1984, and treated in a surface impoundment that is newly subject to subtitle C of RCRA as a result of the additional identification or listing, may continue to be treated in that surface impoundment, notwithstanding that the waste is otherwise prohibited from land disposal, provided that surface impoundment is in compliance with the requirements of subpart F of part 265 within 12 months after the promulgation of the new listing or characteristic. In addition, if the surface impoundment continues to treat hazardous waste after 48 months from promulgation of the additional listing or characteristic, it must then be in compliance with 268.4.

268.20 Waste specific prohibitions-Dyes and/or pigments production wastes.

(a) Effective August 23, 2005, the waste specified in part 261 as EPA Hazardous Waste Number K181, and soil and debris contaminated with this waste, radioactive wastes mixed with this waste, and soil and debris contaminated with radioactive wastes mixed with this waste are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subpart D of this Part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under 268.44;

(4) Hazardous debris has met the treatment standards in 268.40 or the alternative treatment standards in 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract of the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable subpart D levels, the waste is prohibited from land disposal, and all requirements of 268 are applicable, except as otherwise specified. (2/07)

268.21 through 268.29 [Reserved]

Subpart C - PROHIBITIONS ON LAND DISPOSAL

268.30 Waste specific prohibitions - wood preserving wastes

(9/98)

(a) Effective August 11, 1997, the following wastes are prohibited from land disposal: the wastes specified in 261 as EPA Hazardous Waste numbers F032, F034, and F035. (9/98)

(b) Effective May 12, 1999, the following wastes are prohibited from land disposal: soil and debris contaminated with F032, F034, F035; and radioactive wastes mixed with EPA Hazardous waste numbers F032, F034, and F035. (12/92, 9/98)

(c) Between May 12, 1997 and May 12, 1999, soil and debris contaminated with F032, F034, F035; and radioactive waste mixed with F032, F034, and F035 may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in 268.5(h)(2) of this part. (11/90, 12/92, 9/98)

(d) The requirements of paragraphs (a) and (b) of this section do not apply if: (11/90, 9/98)

(1) The wastes meet the applicable treatment standards of subpart D of this part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition; or

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 268.44; or (9/98)

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to those wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of 268.48 of this part, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified. (9/98)

268.31 Waste specific prohibitions - Dioxin-containing wastes
(11/90)

(a) Effective November 8, 1988, the dioxin-containing wastes specified in 261.31 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, are prohibited from land disposal unless the following condition applies:

(1) The F020 - F023 and F026 - F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act (RCRA).

(b) Effective November 8, 1990, the F020 - F023 and F026 - F028 dioxin-containing wastes listed in paragraph (a)(1) of this section are prohibited from land disposal. (12/93)

(c) Between November 8, 1988, and November 8, 1990, wastes included in paragraph (a)(1) of this section may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in 268.5(h)(2) and all other applicable requirements of parts 264 and 265.

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes meet the standards of subpart D of this part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition; or

(3) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to those wastes covered by the extension.

268.32 Waste specific prohibitions - Soils exhibiting the toxicity characteristic for metals and containing PCBs.
(6/02)

(a) Effective December 26, 2000, the following wastes are prohibited from land disposal: any volumes of soil exhibiting the toxicity characteristic solely because of the presence of metals (D004 - D011) and containing PCBs.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) (i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and

(ii) The wastes meet the treatment standards specified in Subpart D of this part for EPA hazardous waste numbers D004 - D011, as applicable; or

(2) (i) The wastes contain halogenated organic compounds in total concentration less than 1,000 mg/kg; and

(ii) The wastes meet the alternative treatment standards specified in 268.49 for contaminated soil; or

(3) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition; or

(4) The wastes meet applicable alternative treatment standards established pursuant to a petition granted under 268.44.

268.33 Waste-specific prohibitions - chlorinated aliphatic wastes.

(a) Effective May 8, 2001, the wastes specified in part 261 as EPA Hazardous Wastes Numbers K174, and K175, soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under 268.44;

(4) Hazardous debris has met the treatment standards in 268.40 or the alternative treatment standards in 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the

entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable levels of subpart D of this part, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

(d) Disposal of K175 wastes that have complied with all applicable 268.40 treatment standards must also be macroencapsulated in accordance with 268.45 Table 1 unless the waste is placed in:

(1) A Subtitle C monofill containing only K175 wastes that meet all applicable 268.40 treatment standards; or

(2) A dedicated Subtitle C landfill cell in which all other wastes being co-disposed are at pH 6.0.

268.34 Waste specific prohibitions - toxicity characteristic metal wastes

(11/99, 8/00)

(a) Effective August 24, 1998, the following wastes are prohibited from land disposal: the wastes specified in Part 261 as EPA Hazardous Waste numbers D004 - D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), and waste, soil, or debris from mineral processing operations that is identified as hazardous by the specifications at Part 261.

(b) Effective November 26, 1998, the following waste is prohibited from land disposal: Slag from secondary led smelting which exhibits the Toxicity Characteristic due to the presence of one or more metals.

(c) Effective May 26, 2000, the following wastes are prohibited from land disposal: newly identified characteristic wastes from elemental phosphorus processing; radioactive wastes mixed with EPA Hazardous wastes D004 - D011 that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure); or mixed with newly identified characteristic mineral processing wastes, soil, or debris.

(d) Between May 26, 1998 and May 26, 2000, newly identified characteristic wastes from elemental phosphorus processing, radioactive waste mixed with D004 - D011 wastes that are newly identified (i.e. wastes, soil, or debris identified as hazardous by the Toxic Characteristic Leaching Procedure but not the Extraction Procedure), or mixed with newly identified characteristic mineral processing wastes, soil, or debris may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in 268.5(h)(2) of this part.

(e) The requirements of paragraphs (a) and (b) of this section do not apply if: (8/00)

(1) The wastes meet the applicable treatment standards specified in subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 268.44; or

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(f) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents (including underlying hazardous constituents in characteristic wastes) in excess of the applicable Universal Treatment Standard levels of 268.48 of this part, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

268.35 Waste specific prohibitions - petroleum refining wastes.

(a) Effective February 8, 1999, the wastes specified in part 261 as EPA Hazardous Wastes Numbers K169, K170, K171, and K172, soils and debris contaminated with these wastes, radioactive wastes mixed with these hazardous wastes, and soils and debris contaminated with these radioactive mixed wastes, are prohibited from land disposal.

(b) The requirements of paragraph (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under 268.44;

(4) Hazardous debris that have met treatment standards in 268.40 or in the alternative treatment standards in 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable

treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Universal Treatment Standard levels of 268.48, the waste is prohibited from land disposal, and all requirements of this part are applicable, except as otherwise specified.

268.36 Waste specific prohibitions - inorganic chemical wastes
(6/03)

(a) Effective May 20, 2002, the wastes specified in part 261 as EPA Hazardous Wastes Numbers K176, K177, and K178, and soil and debris contaminated with these wastes, radioactive wastes mixed with these wastes, and soil and debris contaminated with radioactive wastes mixed with these wastes are prohibited from land disposal.

(b) The requirements of (a) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable treatment standards established pursuant to a petition granted under 268.44;

(4) Hazardous debris has met the treatment standards in 268.40 or the alternative treatment standards in 268.45; or

(5) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(c) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains regulated constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

268.37 Waste specific prohibitions-ignitable and corrosive characteristic wastes whose treatment standards were vacated
(12/93)

(a) Effective August 9, 1993, the wastes specified in 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in 261.22 as D002, that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies.

(b) Effective February 10, 1994, the wastes specified in 261.21 as D001 (and is not in the High TOC Ignitable Liquids Subcategory), and specified in 261.22 as D002, that are managed in systems defined in 40 CFR 144.6(e) and 146.6(e) as Class V injection wells, that do not engage in CWA-equivalent treatment before injection, are prohibited from land disposal.

268.38 Waste specific prohibitions-newly identified organic toxicity characteristic wastes and newly listed coke by-product and chlorotoluene production wastes

(a) Effective December 19, 1994, the wastes specified in 261.32 as EPA Hazardous Waste numbers K141, K142, K143, K144, K145, K147, K148, K149, K150, and K151 are prohibited from land disposal. In addition, debris contaminated with EPA Hazardous Waste numbers F037, F038, K107-K112, K117, K118, K123-K126, K131, K132, K136, U328, U353, U359, and soil and debris contaminated with D012-D043, K141-K145, and K147-K151 are prohibited from land disposal. The following wastes that are specified in 261.24, Table 1 as EPA Hazardous Waste numbers: D012, D013, D014, D015, D016, D017, D018, D019, D020, D021, D022, D023, D024, D025, D026, D027, D028, D029, D030, D031, D032, D033, D034, D035, D036, D037, D038, D039, D040, D041, D042, D043 that are not radioactive, or that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that are zero dischargers that do not engage in CWA-equivalent treatment before ultimate land disposal, or that are injected in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or better than these technologies. (5/96)

(b) On September 19, 1996, radioactive wastes that are mixed with D018-D043 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that inject in Class I deep wells regulated under the Safe Drinking Water Act (SDWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. CWA-equivalent treatment means biological treatment for organics, alkaline chlorination or ferrous sulfate precipitation for cyanide, precipitation/ sedimentation for metals, reduction of hexavalent chromium, or other treatment technology that can be demonstrated to perform equally or greater than these technologies. Radioactive wastes mixed with K141-K145, and K147-K151 are also prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(c) Between December 19, 1994 and September 19, 1996, the wastes included in paragraphs (b) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in 268.5(h)(2) of this Part.

(d) The requirements of paragraphs (a), (b), and (c) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 268.44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(e) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

268.39 Waste specific prohibitions - spent aluminum potliners; reactive; and carbamate wastes

(a) On July 8, 1996, the wastes specified in 261.32 as EPA Hazardous Waste numbers K156-K159, and K161; and in 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal. (9/98)

(b) On July 8, 1996, the wastes identified in 261.23 as D003 that are managed in systems other than those whose discharge is regulated under the Clean Water Act (CWA), or that are zero dischargers that engage in CWA-equivalent treatment before ultimate land disposal, are prohibited from land disposal. This prohibition does not apply to unexploded ordnance and other explosive devices which have been the subject of an emergency response. (Such D003 wastes are prohibited unless they meet the treatment standard of DEACT before land disposal (see 268.40)).

(c) On September 21, 1998, the wastes specified in 261.32 as EPA Hazardous Waste number K088 are prohibited from land disposal. In addition, soil and debris contaminated with these wastes are prohibited from land disposal. (8/00)

(d) On April 8, 1998, radioactive wastes mixed with K088, K156-K159, K161, P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U278-U280, U364, U367, U372, U373, U387, U389, U394, U395, U404, and U409-U411 are prohibited from land disposal. In addition, soil and debris contaminated with these radioactive mixed wastes are prohibited from land disposal.

(e) Between July 8, 1996, and April 8, 1998, the wastes included in paragraphs (a), (c), and (d) of this section may be disposed in a landfill or surface impoundment, only if such unit is in compliance with the requirements specified in 268.5(h)(2).

(f) The requirements of paragraphs (a), (b), (c), and (d) of this section do not apply if:

(1) The wastes meet the applicable treatment standards specified in Subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate treatment standards established pursuant to a petition granted under 268.44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to 268.5, with respect to these wastes covered by the extension.

(g) To determine whether a hazardous waste identified in this section exceeds the applicable treatment standards specified in 268.40, the initial generator must test a sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D

levels, the waste is prohibited from land disposal, and all requirements of this part 268 are applicable, except as otherwise specified.

Subpart D - TREATMENT STANDARDS

268.40 Applicability of treatment standards

(a) A prohibited waste identified in the table "Treatment Standards for Hazardous Wastes" may be land disposed only if it meets the requirements found in the table. For each waste, the table identifies one of three types of treatment standard requirements: (11/90, 12/92; 12/93; 5/96, 9/98)

(1) All hazardous constituents in the waste or in the treatment residue must be at or below the values found in the table for that waste ("total waste standards"); or

(2) The hazardous constituents in the extract of the waste or in the extract of the treatment residue must be at or below the values found in the table ("waste extract standards"); or

(3) The waste must be treated using the technology specified in the table ("technology standard"), which are described in detail in 268.42, Table 1 - Technology Codes and Description of Technology-Based Standards.

(b) For wastewaters, compliance with concentration level standards is based on maximums for any one day, except for D004 through D011 wastes for which the previously promulgated treatment standards based on grab samples remain in effect. For all nonwastewaters, compliance with concentration level standards is based on grab sampling. For wastes covered by the waste extract standards, the test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11, must be used to measure compliance. An exception is made for D004 and D008, for which either of two test methods may be used: Method 1311, or Method 1310, the Extraction Procedure Toxicity Test. For wastes covered by a technology standard, the wastes may be land disposed after being treated using that specified technology or an equivalent treatment technology approved by the Administrator under the procedures set forth in 268.42(b). (5/96)

(c) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern. (5/96)

(d) Notwithstanding the prohibitions specified in paragraph (a) of this section, treatment and disposal facilities may demonstrate (and certify pursuant to 268.7(b)(5)) compliance with the treatment standards for organic constituents specified by a footnote in the table "Treatment Standards for Hazardous Wastes" in this section, provided the following conditions are satisfied: (5/96)

(1) The treatment standards for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of part 264, subpart O, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

(2) The treatment or disposal facility has used the methods referenced in paragraph (d)(1) of this section to treat the organic constituents; and

(3) The treatment or disposal facility may demonstrate compliance with organic constituents if good-faith analytical efforts achieve detection limits for the regulated organic constituents that do not exceed the treatment standards specified in this section by an order of magnitude.

(e) For characteristic wastes (D001 - D043) that are subject to treatment standards in the following table "Treatment Standards for Hazardous Wastes," and are not managed in a wastewater treatment system that is regulated under the Clean Water Act (CWA), all underlying hazardous constituents (as defined in 268.2(i)) must meet Universal Treatment Standards, found in 268.48, Table, Universal Treatment Standards, prior to land disposal. as defined in 268.2(c) of this part. (5/96, 9/98, 11/99)

(f) The treatment standards for F001-F005 nonwastewater constituents carbon disulfide, cyclohexanone, and/or methanol apply to wastes which contain only one, two, or three of these constituents. Compliance is measured for these constituents in the waste extract from test Method 1311, the Toxicity Characteristic Leaching Procedure found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11. If the waste contains any of these three constituents along with any of the other 25 constituents found in F001-F005, then compliance with treatment standards for carbon disulfide, cyclohexanone, and/or methanol is not required. (5/96)

(g) Between August 26, 1996, and March 4, 1999, the treatment standards for the wastes specified in 261.32 as EPA Hazardous Waste numbers K156-K161; and in 261.33 as EPA Hazardous Waste numbers P127, P128, P185, P188-P192, P194, P196-P199, P201-P205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-U404, U407, and U409-U411; and soil contaminated with these wastes; may be satisfied by either meeting the constituent concentrations presented in the table "Treatment Standards for Hazardous Wastes" in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at 268.42 Table 1, for nonwastewaters; and, biodegradation as defined by the technology code

BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at 268.42 Table 1, for wastewaters. (9/98, 8/00)

(h) Prohibited D004-D011 mixed radioactive wastes and mixed radioactive listed wastes containing metal constituents, that were previously treated by stabilization to the treatment standards in effect at that time and then put into storage, do not have to be re-treated to meet treatment standards in this section prior to land disposal.

(i) [amended 8/00, Reserved 6/04]

(j) Effective September 4, 1998, the treatment standards for the wastes specified in 261.33 as EPA Hazardous Waste numbers P185, P191, P192, P197, U364, U394, and U395 may be satisfied by either meeting the constituent concentrations presented in the table "Treatment Standards for Hazardous Wastes" in this section, or by treating the waste by the following technologies: combustion, as defined by the technology code CMBST at 268.42 Table 1 of this Part, for nonwastewaters; and, biodegradation as defined by the technology code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at 268.42 Table 1 of this Part, for wastewaters. (8/00)

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
D001 [9]	Ignitable Characteristic Wastes, except for the 261.21(a)(1) High TOC Subcategory.	NA	NA	DEACT and meet 268.48 standards[8]; or RORGS; or CMBST	DEACT and meet 268.48 standards[8]; or RORGS; or CMBST
	High TOC Ignitable Characteristic Liquids Subcategory based on 261.21(a)(1) - Greater than or equal to 10% total organic carbon. (Note: This subcategory consists of nonwastewaters only.)	NA	NA	NA	RORGS; CMBST; or POLYM
D002 [9]	Corrosive Characteristic Wastes.	NA	NA	DEACT and meet 268.48 standards[8]	DEACT and meet 268.48 standards[8]
D002, D004, D005, D006, D007, D008, D009, D010, D011	Radioactive high level wastes generated during the reprocessing of fuel rods. (Note: This subcategory consists of nonwastewaters only.)	Corrosivity (pH)	NA	NA	HLVIT
		Arsenic	7440-38-2	NA	HLVIT
		Barium	7440-39-3	NA	HLVIT
		Cadmium	7440-43-9	NA	HLVIT
		Chromium (Total)	7440-47-3	NA	HLVIT
		Lead	7439-92-1	NA	HLVIT
		Mercury	7439-97-6	NA	HLVIT
		Selenium	7782-49-2	NA	HLVIT
		Silver	7440-22-4	NA	HLVIT
D003 [9]	Reactive Sulfides Subcategory based on 261.23(a)(5).	NA	NA	DEACT	DEACT
	Explosives Subcategory based on 261.23(a)(6), (7), and (8).	NA	NA	DEACT and meet 268.48 standards[8]	DEACT and meet 268.48 standards[8]
	Unexploded ordnance and other explosive devices which have been the subject of an emergency response.	NA	NA	DEACT	DEACT
	Other Reactives Subcategory based on 261.23(a)(1).	NA	NA	DEACT and meet 268.48 standards[8]	DEACT and meet 268.48 standards[8]
	Water Reactive Subcategory based on 261.23(a)(2), (3), and (4). (Note: This subcategory consists of nonwastewaters only.)	NA	NA	NA	DEACT and meet 268.48 standards[8]
	Reactive Cyanides Subcategory based on 261.23(a)(5).	Cyanides (Total)[7]	57-12-5	Reserved	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
D004 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for arsenic based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Arsenic	7440-38-2	1.4 and meet 268.48 standards[8]	5.0 mg/l TCLP and meet 268.48 standards[8]

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
D005 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for barium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Barium	7440-39-3	1.2 and meet 268.48 standards[8]	21 mg/l TCLP and meet 268.48 standards[8]
D006 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for cadmium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Cadmium	7440-43-9	0.69 and meet 268.48 standards[8]	0.11 mg/l TCLP and meet 268.48 standards[8]
	Cadmium Containing Batteries Subcategory. (Note: This subcategory consists of nonwastewaters only.)	Cadmium	7440-43-9	NA	RTHRM
	Radioactively contaminated cadmium containing batteries. (Note: This subcategory consists of nonwastewaters only) (6/04)	Cadmium	7440-43-9	NA	Macroencapsulation in accordance with 268.45
D007 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for chromium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Chromium (Total)	7440-47-3	2.77 and meet 268.48 standards[8]	0.60 mg/l TCLP and meet 268.48 standards[8]
D008 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for lead based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Lead	7439-92-1	0.69 and meet 268.48 standards[8]	0.75 mg/l TCLP and meet 268.48 standards[8]
	Lead Acid Batteries Subcategory (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 268 or exempted under other EPA regulations (see 266.80). This subcategory consists of nonwastewaters only.)	Lead	7439-92-1	NA	RLEAD
	Radioactive Lead Solids Subcategory (Note: these lead solids include, but are not limited to, all forms of lead shielding and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash. This subcategory consists of nonwastewaters only.)	Lead	7439-92-1	NA	MACRO
D009 [9]	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that also contain organics and are not incinerator residues. (High Mercury-Organic Subcategory)	Mercury	7439-97-6	NA	IMERC; OR RMERC
	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain greater than or equal to 260 mg/kg total mercury that are inorganic, including incinerator residues and residues from RMERC. (High Mercury-Inorganic Subcategory)	Mercury	7439-97-6	NA	RMERC
	Nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are residues from RMERC only. (Low Mercury Subcategory)	Mercury	7439-97-6	NA	0.20 mg/l TCLP and meet 268.48 standards[8]

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	All other nonwastewaters that exhibit, or are expected to exhibit, the characteristic of toxicity for mercury based on the toxicity characteristic leaching procedure (TCLP) in SW846; and contain less than 260 mg/kg total mercury and that are not residues from RMERC. (Low Mercury Subcategory)	Mercury	7439-97-6	NA	0.025 mg/l TCLP and meet 268.48 standards[8]
	All D009 wastewaters.	Mercury	7439-97-6	0.15 and meet 268.48 standards[8]	NA
	Elemental mercury contaminated with radioactive materials. (Note: This subcategory consists of nonwastewaters only.)	Mercury	7439-97-6	NA	AMLGM
	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory. (Note: This subcategory consists of nonwastewaters only.)	Mercury	7439-97-6	NA	IMERC
	Radioactively contaminated mercury containing batteries. (Note: This subcategory consists of nonwastewaters only) (6/04)	Mercury	7439-97-6	NA	Macroencapsulation in accordance with 268.45
D010 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for selenium based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Selenium	7782-49-2	0.82 and meet 268.48 standards[8]	5.7 mg/l TCLP and meet 268.48 standards[8]
	Radioactively contaminated silver containing batteries. (Note: This subcategory consists of nonwastewaters only) (6/04)	Silver	7440-22-4	NA	Macroencapsulation in accordance with 268.45
D011 [9]	Wastes that exhibit, or are expected to exhibit, the characteristic of toxicity for silver based on the toxicity characteristic leaching procedure (TCLP) in SW846.	Silver	7440-22-4	0.43 and meet 268.48 standards[8]	0.14 mg/l TCLP and meet 268.48 standards[8]
D012 [9]	Wastes that are TC for Endrin based on the TCLP in SW846 Method 1311.	Endrin	72-20-8	BIODG; or CMBST	0.13 and meet 268.48 standards[8]
		Endrin aldehyde	7421-93-4	BIODG; or CMBST	0.13 and meet 268.48 standards[8]
D013 [9]	Wastes that are TC for Lindane based on the TCLP in SW846 Method 1311.	alpha-BHC	319-84-6	CARBN; or CMBST	0.066 and meet 268.48 standards[8]
		beta-BHC	319-85-7	CARBN; or CMBST	0.066 and meet 268.48 standards[8]
		delta-BHC	319-86-8	CARBN; or CMBST	0.066 and meet 268.48 standards[8]
		gamma-BHC (Lindane)	58-89-9	CARBN; or CMBST	0.066 and meet 268.48 standards[8]
D014 [9]	Wastes that are TC for Methoxychlor based on the TCLP in SW846 Method 1311.	Methoxychlor	72-43-5	WETOX or CMBST	0.18 and meet 268.48 standards[8]
D015 [9]	Wastes that are TC for Toxaphene based on the TCLP in SW846 Method 1311.	Toxaphene	8001-35-2	BIODG or CMBST	2.6 and meet 268.48 standards[8]
D016 [9]	Wastes that are TC for 2,4-D (2,4-Dichlorophenoxyacetic acid) based on the TCLP in SW846 Method 1311.	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	CHOXD, BIODG, or CMBST	10 and meet 268.48 standards[8]
D017 [9]	Wastes that are TC for 2,4,5-TP (Silvex) based on the TCLP in SW846 Method 1311.	2,4,5-TP (Silvex)	93-72-1	CHOXD or CMBST	7.9 and meet 268.48 standards[8]
D018 [9]	Wastes that are TC for Benzene based on the TCLP in SW846 Method 1311.	Benzene	71-43-2	0.14 and meet 268.48 standards[8]	10 and meet 268.48 standards[8]
D019 [9]	Wastes that are TC for Carbon tetrachloride based on the TCLP in SW846 Method 1311.	Carbon tetrachloride	56-23-5	0.057 and meet 268.48	6.0 and meet 268.48

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
				standards[8]	standards[8]
D020 [9]	Wastes that are TC for Chlordane based on the TCLP in SW846 Method 1311.	Chlordane (alpha and gamma isomers)	57-74-9	0.0033 and meet 268.48 standards[8]	0.26 and meet 268.48 standards[8]
D021 [9]	Wastes that are TC for Chlorobenzene based on the TCLP in SW846 Method 1311.	Chlorobenzene	108-90-7	0.057 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D022 [9]	Wastes that are TC for Chloroform based on the TCLP in SW846 Method 1311.	Chloroform	67-66-3	0.046 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D023 [9]	Wastes that are TC for o-Cresol based on the TCLP in SW846 Method 1311.	o-Cresol	95-48-7	0.11 and meet 268.48 standards[8]	5.6 and meet 268.48 standards[8]
D024 [9]	Wastes that are TC for m-Cresol based on the TCLP in SW846 Method 1311.	m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77 and meet 268.48 standards[8]	5.6 and meet 268.48 standards[8]
D025 [9]	Wastes that are TC for p-Cresol based on the TCLP in SW846 Method 1311.	p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77 and meet 268.48 standards[8]	5.6 and meet 268.48 standards[8]
D026 [9]	Wastes that are TC for Cresols (Total) based on the TCLP in SW846 Method 1311.	Cresol-mixed isomers (Cresylic acid) (sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88 and meet 268.48 standards[8]	11.2 and meet 268.48 standards[8]
D027 [9]	Wastes that are TC for p-Dichlorobenzene based on the TCLP in SW846 Method 1311.	p-Dichlorobenzene (1,4-Dichlorobenzene)	106-46-7	0.090 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D028 [9]	Wastes that are TC for 1,2-Dichloroethane based on the TCLP in SW846 Method 1311.	1,2-Dichloroethane	107-06-2	0.21 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D029 [9]	Wastes that are TC for 1,1-Dichloroethylene based on the TCLP in SW846 Method 1311.	1,1-Dichloroethylene	75-35-4	0.025 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D030 [9]	Wastes that are TC for 2,4-Dinitrotoluene based on the TCLP in SW846 Method 1311.	2,4-Dinitrotoluene	121-14-2	0.32 and meet 268.48 standards[8]	140 and meet 268.48 standards[8]
D031 [9]	Wastes that are TC for Heptachlor based on the TCLP in SW846 Method 1311.	Heptachlor	76-44-8	0.0012 and meet 268.48 standards[8]	0.066 and meet 268.48 standards[8]
		Heptachlor epoxide	1024-57-3	0.016 and meet 268.48 standards[8]	0.066 and meet 268.48 standards[8]
D032 [9]	Wastes that are TC for Hexachlorobenzene based on the TCLP in SW846 Method 1311.	Hexachlorobenzene	118-74-1	0.055 and meet 268.48 standards[8]	10 and meet 268.48 standards[8]
D033 [9]	Wastes that are TC for Hexachlorobutadiene based on the TCLP in SW846 Method 1311.	Hexachlorobutadiene	87-68-3	0.055 and meet 268.48 standards[8]	5.6 and meet 268.48 standards[8]
D034 [9]	Wastes that are TC for Hexachloroethane based on the TCLP in SW846 Method 1311.	Hexachloroethane	67-72-1	0.055 and meet 268.48 standards[8]	30 and meet 268.48 standards[8]
D035 [9]	Wastes that are TC for Methyl ethyl ketone based on the TCLP in SW846 Method 1311.	Methyl ethyl ketone	78-93-3	0.28 and meet 268.48 standards[8]	36 and meet 268.48 standards[8]
D036 [9]	Wastes that are TC for Nitrobenzene based on the TCLP in SW846 Method 1311.	Nitrobenzene	98-95-3	0.068 and meet 268.48 standards[8]	14 and meet 268.48 standards[8]
D037 [9]	Wastes that are TC for Pentachlorophenol based on the TCLP in SW846 Method 1311.	Pentachlorophenol	87-86-5	0.089 and meet 268.48 standards[8]	7.4 and meet 268.48 standards[8]
D038 [9]	Wastes that are TC for Pyridine based on the TCLP in SW846 Method 1311.	Pyridine	110-86-1	0.014 and meet 268.48 standards[8]	16 and meet 268.48 standards[8]
D039 [9]	Wastes that are TC for Tetrachloroethylene based on the TCLP in SW846 Method 1311.	Tetrachloroethylene	127-18-4	0.056 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
D040 [9]	Wastes that are TC for Trichloroethylene based on the TCLP in SW846 Method 1311.	Trichloroethylene	79-01-6	0.054 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
D041 [9]	Wastes that are TC for 2,4,5-Trichlorophenol based on the TCLP in SW846 Method 1311.	2,4,5-Trichlorophenol	95-95-4	0.18 and meet 268.48 standards[8]	7.4 and meet 268.48 standards[8]
D042 [9]	Wastes that are TC for 2,4,6-Trichlorophenol based on the TCLP in SW846 Method 1311.	2,4,6-Trichlorophenol	88-06-2	0.035 and meet 268.48 standards[8]	7.4 and meet 268.48 standards[8]
D043 [9]	Wastes that are TC for Vinyl chloride based on the TCLP in SW846 Method 1311.	Vinyl chloride	75-01-4	0.27 and meet 268.48 standards[8]	6.0 and meet 268.48 standards[8]
F001, F002, F003, F004,& F005	F001, F002, F003, F004 and/or F005 solvent wastes that contain any combination of one or more of the following spent solvents: acetone, benzene, n-butyl alcohol, carbon disulfide, carbon tetrachloride, chlorinated fluorocarbons, chlorobenzene, o-cresol, m-cresol, p-cresol, cyclohexanone, o-dichlorobenzene, 2-ethoxyethanol, ethyl acetate, ethyl benzene, ethyl ether, isobutyl alcohol, methanol, methylene chloride, methyl ethyl ketone, methyl isobutyl ketone, nitrobenzene, 2-nitropropane, pyridine, tetrachloroethylene, toluene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane, trichloroethylene, trichloromonofluoromethane, and/or xylenes [except as specifically noted in other subcategories]. See further details of these listings in 261.31	Acetone	67-64-1	0.28	160
		Benzene	71-43-2	0.14	10
		n-Butyl alcohol	71-36-3	5.6	2.6
		Carbon disulfide	75-15-0	3.8	NA
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chlorobenzene	108-90-7	0.057	6.0
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Cresol-mixed isomers (Cresylic acid)(sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	11.2
		Cyclohexanone	108-94-1	0.36	NA
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Ethyl acetate	141-78-6	0.34	33
		Ethyl benzene	100-41-4	0.057	10
		Ethyl ether	60-29-7	0.12	160
		Isobutyl alcohol	78-83-1	5.6	170
		Methanol	67-56-1	5.6	NA
		Methylene chloride	75-9-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		Methyl isobutyl ketone	108-10-1	0.14	33
		Nitrobenzene	98-95-3	0.068	14
		Pyridine	110-86-1	0.014	16
		Tetrachloroethylene	127-18-4	0.056	6.0
		Toluene	108-88-3	0.080	10
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
		Trichloroethylene	79-01-6	0.054	6.0
		Trichloromonofluoromethane	75-69-4	0.020	30
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
	F003 and/or F005 solvent wastes that contain any combination of one or more of the following three solvents as the only listed F001-5 solvents: carbon disulfide, cyclohexanone, and/or methanol. (formerly 268.41(c))	Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
		Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP
		Methanol	67-56-1	5.6	0.75 mg/l TCLP
	F005 solvent waste containing 2-Nitropropane as the only listed F001-5 solvent.	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
	F005 solvent waste containing 2-Ethoxyethanol as the only listed F001-5 solvent.	2-Ethoxyethanol	110-80-5	BIODG: or CMBST	CMBST
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6)	Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	chemical etching and milling of aluminum.	Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F007	Spent cyanide plating bath solutions from electroplating operations.	Cadmium	7440-43-9	NA	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	NA
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	Cadmium	7440-43-9	NA	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	Cadmium	7440-43-9	NA	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
F020, F021, F022, F023, F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives, excluding wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F020); (2) pentachlorophenol, or of intermediates used to produce its derivatives (i.e., F021); (3) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., F022); and from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of: (1) tri- or tetrachlorophenols, excluding wastes from equipment used only for the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol (F023); (2) tetra-, penta-, or hexachlorobenzenes under alkaline conditions (i.e., F026).	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in 261.31 or 261.32.).	All F024 wastes	NA	CMBST[11]	CMBST[11]
		2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
		3-Chloropropylene	107-05-1	0.036	30
		1,1-Dichloroethane	75-34-3	0.059	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,2-Dichloropropane	78-87-5	0.85	18
		cis-1,3-Dichloropropylene	10061-01-5	0.036	18
		trans-1,3-Dichloropropylene	10061-02-6	0.036	18
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Hexachloroethane	67-72-1	0.055	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
F025	Condensed light ends from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.F025 - Light Ends Subcategory	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1-Dichloroethylene	75-35-4	0.025	6.0
		Methylene chloride	75-9-2	0.089	30
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Vinyl chloride	75-01-4	0.27	6.0
	Spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.F025 - Spent Filters/Aids and Desiccants Subcategory	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Methylene chloride	75-9-2	0.089	30
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Vinyl chloride	75-01-4	0.27	6.0
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component.).	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Wastes Nos. F020, F021, F023, F026, and F027.	HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		Pentachlorophenol	87-86-5	0.089	7.4
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
F032	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that currently use or have previously used chlorophenolic formulations (except potentially cross-contaminated wastes that have had the F032 waste code deleted in accordance with 261.35 of this chapter or potentially cross-contaminated wastes that are otherwise currently regulated as hazardous wastes (i.e., F034 or F035), and where the generator does not resume or initiate use of chlorophenolic formulations). This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or penta-chlorophenol.	Acenaphthene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		2-4-Dimethyl phenol	105-67-9	0.036	14
		Fluorene	86-73-7	0.059	3.4
		Hexachlorodibenzo-p-dioxins	NA	0.000063, or CMBST[11]	0.001, or CMBST[11]
		Hexachlorodibenzofurans	NA	0.000063, orCMBST[11]	0.001, orCMBST[11]
		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Pentachlorodibenzo-p-dioxins	NA	0.000063, orCMBST[11]	0.001, orCMBST[11]
		Pentachlorodibenzofurans	NA	0.000035, orCMBST[11]	0.001, orCMBST[11]
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Tetrachlorodibenzo-p-dioxins	NA	0.000063, orCMBST[11]	0.001, orCMBST[11]
		Tetrachlorodibenzofurans	NA	0.000063, orCMBST[11]	0.001, orCMBST[11]
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
F034	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes generated at plants that use creosote formulations. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Acenaphthene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Fluorene	86-73-7	0.059	3.4
		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
F035	Wastewaters (except those that have not come into contact with process contaminants), process residuals, preservative drippage, and spent formulations from wood preserving processes processes generated at plants that use inorganic preservatives containing arsenic or chromium. This listing does not include K001 bottom sediment sludge from the treatment of wastewater from wood preserving processes that use creosote and/or pentachlorophenol.	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
F037	Petroleum refinery primary oil/water/solids separation sludge-Any sludge generated from the gravitational separation of oil/water/solids during the storage or treatment of process wastewaters and oily cooling wastewaters from petroleum refineries. Such sludges include, but are not limited to, those generated in: oil/water/solids separators; tanks and impoundments; ditches and other conveyances; sumps; and stormwater units receiving dry weather flow. Sludge generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges generated in one or more additional units after wastewaters have been treated in aggressive biological treatment units) and K051 wastes are not included in this listing.	Acenaphthene	83-32-9	0.059	NA
		Anthracene	120-12-7	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
F038	Petroleum refinery secondary (emulsified) oil/water/solids separation sludge and/or float generated from the physical and/or chemical separation of oil/water/solids in process wastewaters and oily cooling wastewaters from petroleum refineries. Such wastes include, but are not limited to, all sludges and floats generated in: induced air floatation (IAF) units, tanks and impoundments, and all sludges generated in DAF units. Sludges generated in stormwater units that do not receive dry weather flow, sludges generated from non-contact once-through cooling waters segregated for treatment from other process or oily cooling waters, sludges and floats generated in aggressive biological treatment units as defined in 261.31(b)(2) (including sludges and floats generated in one or more additional units after wastewaters have been treated in aggressive biological units) and F037, K048, and K051 are not included in this listing.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
F039	Leachate (liquids that have percolated through	Acenaphthylene	208-96-8	0.059	3.4

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	land disposed wastes) resulting from the disposal of more than one restricted waste classified as hazardous under subpart D of this part. (Leachate resulting from the disposal of one or more of the following EPA Hazardous Wastes and no other Hazardous Wastes retains its EPA Hazardous Waste Number(s): F020, F021, F022, F026, F027, and/or F028).(6/02, 2/07)	Acenaphthene	83-32-9	0.059	3.4
		Acetone	67-64-1	0.28	160
		Acetonitrile	75-05-8	5.6	NA
		Acetophenone	96-86-2	0.010	9.7
		2-Acetylaminofluorene	53-96-3	0.059	140
		Acrolein	107-02-8	0.29	NA
		Acrylonitrile	107-13-1	0.24	84
		Aldrin	309-00-2	0.021	0.066
		4-Aminobiphenyl	92-67-1	0.13	NA
		Aniline	62-53-3	0.81	14
		o-Anisidine (2-methoxyaniline)	90-04-0	0.010	0.66
		Anthracene	120-12-7	0.059	3.4
		Aramite	140-57-8	0.36	NA
		alpha-BHC	319-84-6	0.00014	0.066
		beta-BHC	319-85-7	0.00014	0.066
		delta-BHC	319-86-8	0.023	0.066
		gamma-BHC	58-89-9	0.0017	0.066
		Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Bromodichloromethane	75-27-4	0.35	15
		Methyl bromide (Bromomethane)	74-83-9	0.11	15
		4-Bromophenyl phenyl ether	101-55-3	0.055	15
		n-Butyl alcohol	71-36-3	5.6	2.6
		Butyl benzyl phthalate	85-68-7	0.017	28
		2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
		Carbon disulfide	75-15-0	3.8	NA
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
		p-Chloroaniline	106-47-8	0.46	16
		Chlorobenzene	108-90-7	0.057	6.0
		Chlorobenzilate	510-15-6	0.10	NA
		2-Chloro-1,3-butadiene	126-99-8	0.057	NA
		Chlorodibromomethane	124-48-1	0.057	15
		Chloroethane	75-00-3	0.27	6.0
		bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
		bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
		Chloroform	67-66-3	0.046	6.0
		bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
		p-Chloro-m-cresol	59-50-7	0.018	14
		Chloromethane (Methyl chloride)	74-87-3	0.19	30
		2-Chloronaphthalene	91-58-7	0.055	5.6
		2-Chlorophenol	95-57-8	0.044	5.7
		3-Chloropropylene	107-05-1	0.036	30
		Chrysene	218-01-9	0.059	3.4
		o-Cresol	95-48-7	0.11	5.6
		p-Cresidine	120-71-8	0.010	0.66
		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Cyclohexanone	108-94-1	0.36	NA
		1,2-Dibromo-3-chloropropane	96-12-8	0.11	15

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
		Dibromomethane	74-95-3	0.11	15
		2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	10
		o,p'-DDD	53-19-0	0.023	0.087
		p,p'-DDD	72-54-8	0.023	0.087
		o,p'-DDE	3424-82-6	0.031	0.087
		p,p'-DDE	72-55-9	0.031	0.087
		o,p'-DDT	789-02-6	0.0039	0.087
		p,p'-DDT	50-29-3	0.0039	0.087
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Dibenz(a,e)pyrene	192-65-4	0.061	NA
		m-Dichlorobenzene	541-73-1	0.036	6.0
		o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Dichlorodifluoromethane	75-71-8	0.23	7.2
		1,1-Dichloroethane	75-34-3	0.059	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1-Dichloroethylene	75-35-4	0.025	6.0
		trans-1,2-Dichloroethylene	156-60-5	0.054	30
		2,4-Dichlorophenol	120-83-2	0.044	14
		2,6-Dichlorophenol	87-65-0	0.044	14
		1,2-Dichloropropane	78-87-5	0.85	18
		cis-1,3-Dichloropropylene	10061-01-5	0.036	18
		trans-1,3-Dichloropropylene	10061-02-6	0.036	18
		Dieldrin	60-57-1	0.017	0.13
		Diethyl phthalate	84-66-2	0.20	28
		2,4-Dimethylaniline (2,4-xylidine)	95-68-1	0.010	0.66
		2-4-Dimethyl phenol	105-67-9	0.036	14
		Dimethyl phthalate	131-11-3	0.047	28
		Di-n-butyl phthalate	84-74-2	0.057	28
		1,4-Dinitrobenzene	100-25-4	0.32	2.3
		4,6-Dinitro-o-cresol	534-52-1	0.28	160
		2,4-Dinitrophenol	51-28-5	0.12	160
		2,4-Dinitrotoluene	121-14-2	0.32	140
		2,6-Dinitrotoluene	606-20-2	0.55	28
		Di-n-octyl phthalate	117-84-0	0.017	28
		Di-n-propylnitrosamine	621-64-7	0.40	14
		1,4-Dioxane	123-91-1	12.0	170
		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	NA
		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	NA
		1,2-Diphenylhydrazine	122-66-7	0.087	NA
		Disulfoton	298-04-4	0.017	6.2
		Endosulfan I	939-98-8	0.023	0.066
		Endosulfan II	33213-6-5	0.029	0.13
		Endosulfan sulfate	1031-07-8	0.029	0.13
		Endrin	72-20-8	0.0028	0.13
		Endrin aldehyde	7421-93-4	0.025	0.13
		Ethyl acetate	141-78-6	0.34	33
		Ethyl cyanide (Propanenitrile)	107-12-0	0.24	360
		Ethyl benzene	100-41-4	0.057	10
		Ethyl ether	60-29-7	0.12	160
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Ethyl methacrylate	97-63-2	0.14	160
		Ethylene oxide	75-21-8	0.12	NA
		Famphur	52-85-7	0.017	15
		Fluoranthene	206-44-0	0.068	3.4
		Fluorene	86-73-7	0.059	3.4
		Heptachlor	76-44-8	0.0012	0.066

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzo-p-dioxin (1, 2, 3, 4, 6, 7, 8 HpCDD) (6/02)	35822-46-9	0.000035	0.0025
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF) (6/02)	67562-39-4	0.000035	0.0025
		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF) (6/02)	55673-89-7	0.000035	0.0025
		Heptachlor epoxide	1024-57-3	0.016	0.066
		Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachlorocyclopentadiene	77-47-4	0.057	2.4
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		Hexachloroethane	67-72-1	0.055	30
		Hexachloropropylene	1888-71-7	0.035	30
		Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
		Iodomethane	74-88-4	0.19	65
		Isobutyl alcohol	78-83-1	5.6	170
		Isodrin	465-73-6	0.021	0.066
		Isosafrole	120-58-1	0.081	2.6
		Kepone	143-50-8	0.0011	0.13
		Methacrylonitrile	126-98-7	0.24	84
		Methanol	67-56-1	5.6	NA
		Methapyrilene	91-80-5	0.081	1.5
		Methoxychlor	72-43-5	0.25	0.18
		3-Methylcholanthrene	56-49-5	0.0055	15
		4,4-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
		Methylene chloride	75-09-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		Methyl isobutyl ketone	108-10-1	0.14	33
		Methyl methacrylate	80-62-6	0.14	160
		Methyl methansulfonate	66-27-3	0.018	NA
		Methyl parathion	298-00-0	0.014	4.6
		Naphthalene	91-20-3	0.059	5.6
		2-Naphthylamine	91-59-8	0.52	NA
		p-Nitroaniline	100-01-6	0.028	28
		Nitrobenzene	98-95-3	0.068	14
		5-Nitro-o-toluidine	99-55-8	0.32	28
		p-Nitrophenol	100-02-7	0.12	29
		N-Nitrosodiethylamine	55-18-5	0.40	28
		N-Nitrosodimethylamine	62-75-9	0.40	NA
		N-Nitroso-di-n-butylamine	924-16-3	0.40	17
		N-Nitrosomethylethylamine	10595-95-6	0.40	2.3
		N-Nitrosomorpholine	59-89-2	0.40	2.3
		N-Nitrosopiperidine	100-75-4	0.013	35
		N-Nitrosopyrrolidine	930-55-2	0.013	35
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (6/02)	3268-87-9	0.000063	0.0025
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (6/02)	39001-02-0	0.000063	0.005
		Parathion	56-38-2	0.014	4.6
		Total PCBs(sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	10
		Pentachlorobenzene	608-93-5	0.055	10
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Pentachloronitrobenzene	82-68-8	0.055	4.8
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenacetin	62-44-2	0.081	16
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		1,3-Phenylenediamine	108-45-2	0.010	0.66
		Phorate	298-02-2	0.021	4.6
		Phthalic anhydride	85-44-9	0.055	NA
		Pronamide	23950-58-5	0.093	1.5
		Pyrene	129-00-0	0.067	8.2
		Pyridine	110-86-1	0.014	16
		Safrole	94-59-7	0.081	22
		Silvex (2,4,5-TP)	93-72-1	0.72	7.9
		2,4,5-T	93-76-5	0.72	7.9
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
		Toluene	108-88-3	0.080	10
		Toxaphene	8001-35-2	0.0095	2.6
		Bromoform (Tribromomethane)	75-25-2	0.63	15
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Trichloromonofluoromethane	75-69-4	0.020	30
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		1,2,3-Trichloropropane	96-18-4	0.85	30
		1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
		tris(2,3-Dibromopropyl) phosphate	126-72-7	0.11	NA
		Vinyl chloride	75-01-4	0.27	6.0
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Antimony	7440-36-0	1.9	1.15 mg/l TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Barium	7440-39-3	1.2	21 mg/l TCLP
		Beryllium	7440-41-7	0.82	NA
		Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	NA
		Fluoride	16964-48-8	35	NA
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Mercury	7439-97-6	0.15	0.025 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Selenium	7782-49-2	0.82	5.7 mg/l TCLP
		Silver	7440-22-4	0.43	0.14 mg/l TCLP
		Sulfide	8496-25-8	14	NA
		Thallium	7440-28-0	1.4	NA
		Vanadium	7440-62-2	4.3	NA

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	Naphthalene	91-20-3	0.059	5.6
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K005	Wastewater treatment sludge from the production of chrome green pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous).	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
	Wastewater treatment sludge from the production of chrome oxide green pigments (hydrated).	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	NA
K007	Wastewater treatment sludge from the production of iron blue pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
K008	Oven residue from the production of chrome oxide green pigments.	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046	6.0
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	Chloroform	67-66-3	0.046	6.0
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanide (Total)	57-12-5	1.2	590
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanide (Total)	57-12-5	1.2	590
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	Acetonitrile	75-05-8	5.6	38
		Acrylonitrile	107-13-1	0.24	84
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.14	10
		Cyanide (Total)	57-12-5	1.2	590
K015	Still bottoms from the distillation of benzyl chloride.	Anthracene	120-12-7	0.059	3.4
		Benzal chloride	98-87-3	0.055	6.0

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Phenanthrene	85-01-8	0.059	5.6
		Toluene	108-88-3	0.080	10
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
K016	Heavy ends or distillation residues from the production of carbon tetrachloride.	Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachlorocyclopentadiene	77-47-4	0.057	2.4
		Hexachloroethane	67-72-1	0.055	30
		Tetrachloroethylene	127-18-4	0.056	6.0
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
		1,2-Dichloropropane	78-87-5	0.85	18
		1,2,3-Trichloropropane	96-18-4	0.85	30
K018	Heavy ends from the fractionation column in ethyl chloride production.	Chloroethane	75-00-3	0.27	6.0
		Chloromethane	74-87-3	0.19	NA
		1,1-Dichloroethane	75-34-3	0.059	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	NA	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
		Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		p-Dichlorobenzene	106-46-7	0.090	NA
		1,2-Dichloroethane	107-06-2	0.21	6.0
		Fluorene	86-73-7	0.059	NA
		Hexachloroethane	67-72-1	0.055	30
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	NA
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Antimony	7440-36-0	1.9	1.15 mg/l TCLP
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	Toluene	108-88-3	0.080	10
		Acetophenone	96-86-2	0.010	9.7
		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
		Phenol	108-95-2	0.039	6.2
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	28
		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	28

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	28
		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	28
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	NA	NA	LLEXT fb SSTRP fb CARBN; or CMBST	CMBST
K026	Stripping still tails from the production of methyl ethyl pyridines.	NA	NA	CMBST	CMBST
K027	Centrifuge and distillation residues from toluene diisocyanate production.	NA	NA	CARBN; or CMBST	CMBST
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	1,1-Dichloroethane	75-34-3	0.059	6.0
		trans-1,2-Dichloroethylene	156-60-5	0.054	30
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	NA	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Cadmium	7440-43-9	0.69	NA
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	Chloroform	67-66-3	0.046	6.0
		1,2-Dichloroethane	107-06-2	0.21	6.0
		1,1-Dichloroethylene	75-35-4	0.025	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		Vinyl chloride	75-01-4	0.27	6.0
K030	Column bodies or heavy ends from the combined production of trichloroethylene and perchloroethylene.	o-Dichlorobenzene	95-50-1	0.088	NA
		p-Dichlorobenzene	106-46-7	0.090	NA
		Hexachlorobutadiene	87-68-3	0.055	5.6
		Hexachloroethane	67-72-1	0.055	30
		Hexachloropropylene	1888-71-7	NA	30
		Pentachlorobenzene	608-93-5	NA	10
		Pentachloroethane	76-01-7	NA	6.0
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K031	By-product salts generated in the production of MSMA and cacodylic acid.	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
K032	Wastewater treatment sludge from the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
		Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
		Heptachlor	76-44-8	0.0012	0.066
		Heptachlor epoxide	1024-57-3	0.016	0.066
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K035	Wastewater treatment sludges generated in the production of creosote.	Acenaphthene	83-32-9	NA	3.4
		Anthracene	120-12-7	NA	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	5.6

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Dibenz(a,h)anthracene	53-70-3	NA	8.2
		Fluoranthene	206-44-0	0.068	3.4
		Fluorene	86-73-7	NA	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	NA	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	Disulfoton	298-04-4	0.017	6.2
K037	Wastewater treatment sludges from the production of disulfoton.	Disulfoton	298-04-4	0.017	6.2
		Toluene	108-88-3	0.080	10
K038	Wastewater from the washing and stripping of phorate production.	Phorate	298-02-2	0.021	4.6
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	NA	NA	CARBN; or CMBST	CMBST
K040	Wastewater treatment sludge from the production of phorate.	Phorate	298-02-2	0.021	4.6
K041	Wastewater treatment sludge from the production of toxaphene.	Toxaphene	8001-35-2	0.0095	2.6
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	2,4-Dichlorophenol	120-83-2	0.044	14
		2,6-Dichlorophenol	187-65-0	0.044	14
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
		2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
		Pentachlorophenol	87-86-5	0.089	7.4
		Tetrachloroethylene	127-18-4	0.056	6.0
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	NA	NA	DEACT	DEACT
K045	Spent carbon from the treatment of wastewater containing explosives.	NA	NA	DEACT	DEACT
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	Lead	7439-92-1	0.69	0.75 mg/l TCLP
K047	Pink/red water from TNT operations	NA	NA	DEACT	DEACT
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	84-74-2	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Toluene	108-88-33	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
K049	Slop oil emulsion solids from the petroleum refining industry.	Anthracene	120-12-7	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Carbon disulfide	75-15-0	3.8	NA
		Chrysene	218-01-9	0.059	3.4
		2,4-Dimethylphenol	105-67-9	0.036	NA
		Ethylbenzene	100-41-4	0.057	10
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Cyanides (Total)[7]	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	Benzo(a)pyrene	50-32-8	0.061	3.4
		Phenol	108-95-2	0.039	6.2
		Cyanides (Total)[7]	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
K051	API separator sludge from the petroleum refining industry.	Acenaphthene	83-32-9	0.059	NA
		Anthracene	120-12-7	0.059	3.4
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		Chrysene	218-01-9	0.059	3.4
		Di-n-butyl phthalate	105-67-9	0.057	28
		Ethylbenzene	100-41-4	0.057	10
		Fluorene	86-73-7	0.059	NA
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Cyanides (Total)[7]	57-12-5	1.2	590
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
K052	Tank bottoms (leaded) from the petroleum refining industry.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		o-Cresol	95-48-7	0.11	5.6
		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	5.6

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		2,4-Dimethylphenol	105-67-9	0.036	NA
		Ethylbenzene	100-41-4	0.057	10
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	85-01-8	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Toluene	108-88-3	0.08	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Lead	7439-92-1	0.69	NA
		Nickel	7440-02-0	NA	11 mg/l TCLP
K060	Ammonia still lime sludge from coking operations.	Benzene	71-43-2	0.14	10
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Cyanides (Total)[7]	57-12-5	1.2	590
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	Antimony	7440-36-0	NA	1.15 mg/l TCLP
		Arsenic	7440-38-2	NA	5.0 mg/l TCLP
		Barium	7440-39-3	NA	21 mg/l TCLP
		Beryllium	7440-41-7	NA	1.22 mg/l TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Mercury	7439-97-6	NA	0.025 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Selenium	7782-49-2	NA	5.7 mg/l TCLP
		Silver	7440-22-4	NA	0.14 mg/l TCLP
		Thallium	7440-28-0	NA	0.20 mg/l TCLP
		Zinc	7440-66-6	NA	4.3 mg/l TCLP
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	NA
K069	Emission control dust/sludge from secondary lead smelting. - Calcium Sulfate (Low Lead) Subcategory	Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
	Emission control dust/sludge from secondary lead smelting. - Non-Calcium Sulfate (High Lead) Subcategory	NA	NA	NA	RLEAD
K071	K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used) nonwastewaters that are residues from RMERC.	Mercury	7439-97-6	NA	0.20 mg/l TCLP
	K071 (Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.) nonwastewaters that are not residues from RMERC.	Mercury	7439-97-6	NA	0.025 mg/l TCLP
	All K071 wastewaters.	Mercury	7439-97-6	0.15	NA
K073	Chlorinated hydrocarbon waste from the	Carbon tetrachloride	56-23-5	0.057	6.0

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	purification step of the diaphragm cell process using graphite anodes in chlorine production.	Chloroform	67-66-3	0.046	6.0
		Hexachloroethane	67-72-1	0.055	30
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
K083	Distillation bottoms from aniline production.	Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		Cyclohexanone	108-94-1	0.36	NA
		Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
		Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
		Nitrobenzene	98-95-3	0.068	14
		Phenol	108-95-2	0.039	6.2
		Nickel	7440-02-0	3.98	11 mg/l TCLP
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	Benzene	71-43-2	0.14	10
		Chlorobenzene	108-90-7	0.057	6.0
		m-Dichlorobenzene	541-73-1	0.036	6.0
		o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Total PCBs(sum of all PCB isomers, or all Aroclors)	1336-36-3	0.10	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K086	Solvent wastes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	Acetone	67-64-1	0.28	160
		Acetophenone	96-86-2	0.010	9.7
		bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
		n-Butyl alcohol	71-36-3	5.6	2.6
		Butylbenzyl phthalate	85-68-7	0.017	28
		Cyclohexanone	108-94-1	0.36	NA
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Diethyl phthalate	84-66-2	0.20	28
		Dimethyl phthalate	131-11-3	0.047	28
		Di-n-butyl phthalate	84-74-2	0.057	28
		Di-n-octyl phthalate	117-84-0	0.017	28
		Ethyl acetate	141-78-6	0.34	33
		Ethylbenzene	100-41-4	0.057	10
		Methanol	67-56-1	5.6	NA
		Methyl ethyl ketone	78-93-3	0.28	36
		Methyl isobutyl ketone	108-10-1	0.14	33
		Methylene chloride	75-09-2	0.089	30
		Naphthalene	91-20-3	0.059	5.6
		Nitrobenzene	98-95-3	0.068	14
		Toluene	108-88-3	0.080	10
		1,1,1-Trichloroethane	71-55-6	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K087	Decanter tank tar sludge from coking operations.	Acenaphthylene	208-96-8	0.059	3.4
		Benzene	71-43-2	0.14	10
		Chrysene	218-01-9	0.059	3.4
		Fluoranthene	206-44-0	0.068	3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Phenanthrene	85-01-8	0.059	5.6
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K088	Spent potliners from primary aluminum reduction.	Acenaphthalene	83-32-9	0.059	3.4
		Anthracene	120-12-7	0.059	3.4
		Benzo(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene	205-99-2	0.11	6.8
		Benzo(k)fluoranthene	207-08-9	0.11	6.8
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Fluoranthene	206-44-0	0.068	3.4
		Indeno(1,2,3,-cd)pyrene	193-39-5	0.0055	3.4
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Antimony	7440-36-0	1.9	1.15 mg/l TCLP
		Arsenic	7440-38-2	1.4	26.1 mg/kg
		Barium	7440-39-3	1.2	21 mg/l TCLP
		Beryllium	7440-41-7	0.82	1.22 mg/l TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Mercury	7439-97-6	0.15	0.025 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Selenium	7782-49-2	0.82	5.7 mg/l TCLP
		Silver	7440-22-4	0.43	0.14 mg/l TCLP
		Cyanide (Total)[7]	57-12-5	1.2	590
		Cyanide (Amenable)[7]	57-12-5	0.86	30
		Fluoride	16984-48-8	35	NA
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	28
		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	28
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene.	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	28
		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	28
K095	Distillation bottoms from the production of 1,1,1-trichloroethane.	Hexachloroethane	67-72-1	0.055	30
		Pentachloroethane	76-01-7	0.055	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	m-Dichlorobenzene	541-73-1	0.036	6.0
		Pentachloroethane	76-01-7	0.055	6.0
		1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
		1,1,2,2-Tetrachloroethane	79-34-6	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		1,1,2-Trichloroethane	79-00-5	0.054	6.0
		Trichloroethylene	79-01-6	0.054	6.0
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
		Heptachlor	76-44-8	0.0012	0.066
		Heptachlor epoxide	1024-57-3	0.016	0.066
		Hexachlorocyclopentadiene	77-47-4	0.057	2.4
K098	Untreated process wastewater from the production of toxaphene.	Toxaphene	8001-35-2	0.0095	2.6
K099	Untreated wastewater from the production of 2,4-D.	2,4-Dichlorophenoxyacetic acid	94-75-7	0.72	10
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
		PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
		TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
		TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
		Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	o-Nitroaniline	88-74-4	0.27	14
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Cadmium	7440-43-9	0.69	NA
		Lead	7439-92-1	0.69	NA
		Mercury	7439-97-6	0.15	NA
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	o-Nitrophenol	88-75-5	0.028	13
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Cadmium	7440-43-9	0.69	NA
		Lead	7439-92-1	0.69	NA
		Mercury	7439-97-6	0.15	NA
K103	Process residues from aniline extraction from the production of aniline.	Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		2,4-Dinitrophenol	51-28-5	0.12	160
		Nitrobenzene	98-95-3	0.068	14
		Phenol	108-95-2	0.039	6.2
K104	Combined wastewater streams generated from nitrobenzene/ aniline production.	Aniline	62-53-3	0.81	14
		Benzene	71-43-2	0.14	10
		2,4-Dinitrophenol	51-28-5	0.12	160
		Nitrobenzene	98-95-3	0.068	14
		Phenol	108-95-2	0.039	6.2
		Cyanides (Total)[7]	57-12-5	1.2	590
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	Benzene	71-43-2	0.14	10
		Chlorobenzene	108-90-7	0.057	6.0
		2-Chlorophenol	95-57-8	0.044	5.7
		o-Dichlorobenzene	95-50-1	0.088	6.0
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Phenol	108-95-2	0.039	6.2
		2,4,5-Trichlorophenol	95-95-4	0.18	7.4
		2,4,6-Trichlorophenol	88-06-2	0.035	7.4
K106	K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	RMERC

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	K106 (wastewater treatment sludge from the mercury cell process in chlorine production) nonwastewaters that contain less than 260 mg/kg total mercury that are residues from RMERC.	Mercury	7439-97-6	NA	0.20 mg/l TCLP
	Other K106 nonwastewaters that contain less than 260 mg/kg total mercury and are not residues from RMERC.	Mercury	7439-97-6	NA	0.025 mg/l TCLP
	All K106 wastewaters.	Mercury	7439-97-6	0.15	NA
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	2,4-Dinitrotoluene	121-14-2	0.32	140
		2,6-Dinitrotoluene	606-20-2	0.55	28
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	NA	CMBST; or CHOXD fb CARBN; or BIODG fb CARBN	CMBST
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	NA	CARBN; OR CMBST	CMBST
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	NA	CARBN; or CMBST	CMBST
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	Nickel	7440-02-0	3.98	11 mg/l TCLP
		NA	NA	CARBN; or CMBST	CMBST
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	NA	NA	CARBN; or CMBST	CMBST
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.046	6.0
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K118	Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.046	6.0
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	NA	NA	CMBST; or CHOXD fb (BIODG or CARBN)	CMBST
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	Methyl bromide (Bromomethane)	74-83-9	0.11	15
		Chloroform	67-66-3	0.046	6.0
		Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
K141	Process residues from the recovery of coal tar, including, but not limited to, collecting sump residues from the production of coke or the recovery of coke by-products produced from coal. This listing does not include K087 (decanter tank tar sludge from coking operations).	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-2-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K142	Tar storage tank residues from the production of coke from coal or from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k))	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K143	Process residues from the recovery of light oil, including, but not limited to, those generated in stills, decanters, and wash oil recovery units from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)flouranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
K144	Wastewater sump residues from light oil refining, including, but not limited to, intercepting or contamination sump sludges from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
K145	Residues from naphthalene collection and recovery operations from the recovery of coke by-products produced from coal.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Chrysene	218-01-9	0.059	3.4

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Naphthalene	91-20-3	0.059	5.6
K147	Tar storage tank residues from coal tar refining.	Benzene	71-43-2	0.14	10
		Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K148	Residues from coal tar distillation, including, but not limited to, still bottoms.	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzo(a)pyrene	50-32-8	0.061	3.4
		Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
		Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
K149	Distillation bottoms from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups. (This waste does not include still bottoms from the distillations of benzyl chloride.)	Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.19	30
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Toluene	108-88-3	0.080	10
K150	Organic residuals, excluding spent carbon adsorbent, from the spent chlorine gas and hydrochloric acid recovery processes associated with the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.19	30
		p-Dichlorobenzene	106-46-7	0.090	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
		Tetrachloroethylene	127-18-4	0.056	6.0
		1,2,4-Trichlorobenzene	120-82-1	0.055	19
K151	Wastewater treatment sludges, excluding neutralization and biological sludges, generated during the treatment of wastewaters from the production of alpha- (or methyl-) chlorinated toluenes, ring-chlorinated toluenes, benzoyl chlorides, and compounds with mixtures of these functional groups.	Benzene	71-43-2	0.14	10
		Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Hexachlorobenzene	118-74-1	0.055	10
		Pentachlorobenzene	608-93-5	0.055	10
		1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
		Tetrachloroethylene	127-18-4	0.056	6.0
		Toluene	108-88-3	0.080	10
K156	Organic waste (including heavy ends, still bottoms, light ends, spent solvents, filtrates, and decantates) from the production of carbamates and carbamoyl oximes. [10] (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Acetonitrile	75-05-8	5.6	18
		Acetophenone	98-86-2	0.010	9.7
		Aniline	62-53-3	0.81	14
		Benomyl	17804-35-2	0.056	1.4
		Benzene	71-43-2	0.14	10
		Carbaryl	63-25-2	0.006	0.14
		Carbenzadim	10605-21-7	0.056	1.4
		Carbofuran	1563-66-2	0.006	0.14
		Carbosulfan	55285-14-8	0.028	1.4
		Chlorobenzene	108-90-7	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		o-Dichlorobenzene	95-50-1	0.088	6.0
		Methomyl	16752-77-5	0.028	0.14
		Methylene chloride	75-09-2	0.089	30

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Methyl ethyl ketone	78-93-3	0.28	36
		Naphthalene	91-20-3	0.059	5.6
		Phenol	108-95-2	0.039	6.2
		Pyridine	110-86-1	0.014	16
		Toluene	108-88-3	0.080	10
		Triethylamine	121-44-8	0.081	1.5
K157	Wastewaters (including scrubber waters, condenser waters, washwaters, and separation waters) from the production of carbamates and carbamoyl oximes. [10] (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Carbon tetrachloride	56-23-5	0.057	6.0
		Chloroform	67-66-3	0.046	6.0
		Chloromethane	74-87-3	0.19	30
		Methomyl	16752-77-5	0.028	0.14
		Methylene chloride	75-09-2	0.089	30
		Methyl ethyl ketone	78-93-3	0.28	36
		o-Phenylenediamine	95-54-5	0.056	5.6
		Pyridine	110-86-1	0.014	16
		Triethylamine	121-44-8	0.081	1.5
K158	Bag house dusts and filter/separation solids from the production of carbamates and carbamoyl oximes. [10] (This listing does not apply to wastes generated from the manufacture of 3-iodo-2-propynyl n-butylcarbamate.)	Benomyl	17804-35-2	0.056	1.4
		Benzene	71-43-2	0.14	10
		Carbenzadim	10605-21-7	0.056	1.4
		Carbofuran	1563-66-2	0.006	0.14
		Carbosulfan	55285-14-8	0.028	1.4
		Chloroform	67-66-3	0.046	6.0
		Methylene chloride	75-09-2	0.089	30
		Phenol	108-95-2	0.039	6.2
K159	Organics from the treatment of thiocarbamate wastes. [10]	Benzene	71-43-2	0.14	10
		Butylate	2008-41-5	0.042	1.4
		EPTC (Eptam)	759-94-4	0.042	1.4
		Molinate	2212-67-1	0.042	1.4
		Pebulate	1114-71-2	0.042	1.4
		Vernolate	1929-77-7	0.042	1.4
K161	Purification solids (including filtration, evaporation, and centrifugation solids), baghouse dust and floor sweepings from the production of dithiocarbamate acids and their salts. [10]	Antimony	7440-36-0	1.9	1.15 mg/l TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
		Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
		Dithiocarbamates (total)	NA	0.028	28
		Lead	7439-92-1	0.69	0.75 mg/l TCLP
		Nickel	7440-02-0	3.98	11 mg/l TCLP
		Selenium	7782-49-2	0.82	5.7 mg/l TCLP
K169	Crude oil tank sediment from petroleum refining operations. (8/00)	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10.
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Ethyl benzene	100-41-4	0.057	10.
		Fluorene	86-73-7	0.059	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene (Methyl Benzene)	108-88-3	0.080	10.
		Xylene(s) (Total)	1330-20-7	0.32	30.
K170	Clarified slurry oil sediment from petroleum refining operations. (8/00)	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10.
		Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
		Chrysene	218-01-9	0.059	3.4
		Dibenz(a,h)anthracene	53-70-3	0.055	8.2
		Ethyl benzene	100-41-4	0.057	10.
		Fluorene	86-73-7	0.059	3.4
		Indeno(1,2,3,-cd)pyrene	193-39-5	0.0055	3.4
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene (Methyl Benzene)	108-88-3	0.080	10.
		Xylene(s) (Total)	1330-20-7	0.32	30.
K171	Spent hydrotreating catalyst from petroleum refining operations, including guard beds used to desulfurize feeds to other catalytic reactors (this	Benz(a)anthracene	56-55-3	0.059	3.4
		Benzene	71-43-2	0.14	10.
		Chrysene	218-01-9	0.059	3.4

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	listing does not include inert support media.) (8/00)	Ethyl benzene	100-41-4	0.057	10.
		Naphthalene	91-20-3	0.059	5.6
		Phenanthrene	81-05-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene (Methyl Benzene)	108-88-3	0.080	10.
		Xylene(s) (Total)	1330-20-7	0.32	30.
		Arsenic	7740-38-2	1.4	5. mg/L TCLP
		Nickel	7440-02-0	3.98	11.0 mg/L TCLP
		Vanadium	7440-62-2	4.3	1.6 mg/L TCLP
		Reactive sulfides	NA	DEACT	DEACT
K172	Spent hydrorefining catalyst from petroleum refiing operations, including guard beds used to desulfurize feeds to other catalytic reactors (this listing does not include inert support media.)	Benzene	71-43-2	0.14	10.
		Ethyl benzene	100-41-4	0.057	10.
		Toluene (Methyl Benzene)	108-88-3	0.080	10.
		Xylene(s) (Total)	1330-20-7	0.32	30.
		Antimony	7740-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7740-38-2	1.4	5. mg/L TCLP
		Nickel	7440-02-0	3.98	11.0 mg/L TCLP
		Vanadium	7440-62-2	4.3	1.6 mg/L TCLP
		Reactive Sulfides	NA	DEACT	DEACT
K174	Wastewater treatment sludges from the production of ethylene dichloride or vinyl chloride monomer (6/02)	1, 2, 3, 4, 6, 7, 8-Heptachlorodibenzo-p-dioxin (1, 2, 3, 4, 6, 7, 8 HpCDD	35822-46-9	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		HxCDDs (All Hexachlorodibenzo-p-dioxins)	34465-46-8	0.000063 or CMBST[11]	0.001 or CMBST[11]
		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST[11]	0.001 or CMBST[11]
		1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	3268-87-9	0.000063 or CMBST[11]	0.005 or CMBST[11]
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063 or CMBST[11]	0.005 or CMBST[11]
		PeCDDs (All Pentachlorodibenzo-p-dioxins	36088-22-9	0.000063 or CMBST[11]	0.001 or CMBST[11]
		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST[11]	0.001 or CMBST[11]
		TCDDs (All tetrachlorodibenzo-p-dioxins	41903-57-5	0.000063 or CMBST[11]	0.001 or CMBST[11]
		TCDFs (All tetrachlorodibenzofurans)	7440-36-0	1.4	5.0mg/L TCLP
K175	Wastewater treatment sludge from the production of vinyl chloride monomer using mercuric chloride catalyst in an acetylene-based process.(6/02)	Mercury [12]	7438-97-6	NA	0.025 mg/L TCLP
		pH [12]		NA pH≤6.0	
	All K175 wastewaters	Mercury	7438-97-6	0.15	NA
K176	Baghouse filters from the production of antimony oxide, including filters from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03)	Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Cadmium	7440-43-9	0.69	0.11 mg/L TCLP

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
		Mercury	7439-97-6	0.15	0.025 mg/L TCLP
K177	Slag from the production of antimony oxide that is speculatively accumulated or disposed, including slag from the production of intermediates (e.g., antimony metal or crude antimony oxide). (6/03)	Antimony	7440-36-0	1.9	1.15 mg/L TCLP
		Arsenic	7440-38-2	1.4	5.0 mg/L TCLP
		Lead	7439-92-1	0.69	0.75 mg/L TCLP
K178	Residues from manufacturing and manufacturing-site storage of ferric chloride from acids formed during the production of titanium dioxide using the chloride-ilmenite process. (6/03)	1,2,3,4,6,7,8-Heptachlorodibenzo-*p*-dioxin (1,2,3,4,6,7,8-HpCDD)	35822-39-4	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	67562-39-4	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	55673-89-7	0.000035 or CMBST[11]	0.0025 or CMBST[11]
		HxCDDs (All Hexachlorodibenzo-*p*-dioxins)	34465-46-8	0.000063 or CMBST[11]	0.001 or CMBST[11]
		HxCDFs (All Hexachlorodibenzofurans)	55684-94-1	0.000063 or CMBST[11]	0.001 or CMBST[11]
		1,2,3,4,6,7,8,9-Octachlorodibenzo-*p*-dioxin (OCDD)	3268-87-9	0.000063 or CMBST[11]	0.005 or CMBST[11]
		1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	39001-02-0	0.000063 or CMBST[11]	0.005 or CMBST[11]
		PeCDDs (All Pentachlorodibenzo-*p*-dioxins)	36088-22-9	0.000063 or CMBST[11]	0.001 or CMBST[11]
		PeCDFs (All Pentachlorodibenzofurans)	30402-15-4	0.000035 or CMBST[11]	0.001 or CMBST[11]
		TCDDs (All tetrachlorodi-benzo-*p*-dioxins)	41903-57-5	0.000063 or CMBST[11]	0.001 or CMBST[11]
		TCDFs (All tetrachlorodibenzofurans)	55722-27-5	0.000063 or CMBST[11]	0.001 or CMBST[11]
		Thallium	7440-28-0	1.4	0.20 mg/L TCLP
K181	Nonwastewaters from the production of dyes and/or pigments (including nonwastewaters commingled at the point of generation with nonwastewaters from other processes) that, at the point of generation, contain mass loadings of any of the constituents identified in paragraph (c) of section 261.32 that are equal to or greater than the	Aniline	62-53-3	0.81	14
		o-Anisidine (2-methoxyaniline)	90-04-0	0.010	0.66
		4-Chloroaniline	106-47-8	0.46	16
		p-Cresidine	120-71-8	0.010	0.66
		2,4-Dimethylaniline (2,4-xylidine)	95-68-1	0.010	0.66

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by corresponding paragraph (c) levels, as determined on a calendar year basis.	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		1,2-Phenylenediamine	95-54-5	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN
		1,3-Phenylenediamine	108-45-2	0.010	0.66
P001	Warfarin, & salts, when present at concentrations greater than 0.3%	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P002	1-Acetyl-2-thiourea	1-Acetyl-2-thiourea	591-08-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P003	Acrolein	Acrolein	107-02-8	0.29	CMBST
P004	Aldrin	Aldrin	309-00-2	0.021	0.066
P005	Allyl alcohol	Allyl alcohol	107-18-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P006	Aluminum phosphide	Aluminum phosphide	20859-73-8	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P007	5-Aminomethyl 3-isoxazolol	5-Aminomethyl 3-isoxazolol	2763-96-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P008	4-Aminopyridine	4-Aminopyridine	504-24-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P009	Ammonium picrate	Ammonium picrate	131-74-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P010	Arsenic acid	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
P011	Arsenic pentoxide	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
P012	Arsenic trioxide	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
P013	Barium cyanide	Barium	7440-39-3	NA	21 mg/l TCLP
		Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P014	Thiophenol (Benzene thiol)	Thiophenol (Benzene thiol)	108-98-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P015	Beryllium dust	Beryllium	7440-41-7	RMETL; or RTHRM	RMETL; or RTHRM
P016	Dichloromethyl ether (Bis(chloromethyl)ether)	Dichloromethyl ether	542-88-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P017	Bromoacetone	Bromoacetone	598-31-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P018	Brucine	Brucine	357-57-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P020	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	2.5
P021	Calcium cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P022	Carbon disulfide	Carbon disulfide	75-15-0	3.8	CMBST

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Carbon disulfide; alternate[6] standard for nonwastewaters only	75-15-0	NA	4.8 mg/l TCLP
P023	Chloroacetaldehyde	Chloroacetaldehyde	107-20-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P024	p-Chloroaniline	p-Chloroaniline	106-47-8	0.46	16
P026	1-(o-Chlorophenyl)thiourea	1-(o-Chlorophenyl)thiourea	5344-82-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P027	3-Chloropropionitrile	3-Chloropropionitrile	542-76-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P028	Benzyl chloride	Benzyl chloride	100-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P029	Copper cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P030	Cyanides (soluble salts and complexes)	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P031	Cyanogen	Cyanogen	460-19-5	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
P033	Cyanogen chloride	Cyanogen chloride	506-77-4	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
P034	2-Cyclohexyl-4,6-dinitrophenol	2-Cyclohexyl-4,6-dinitrophenol	131-89-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P036	Dichlorophenylarsine	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
P037	Dieldrin	Dieldrin	60-57-1	0.017	0.13
P038	Diethylarsine	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
P039	Disulfoton	Disulfoton	298-04-4	0.017	6.2
P040	0,0-Diethyl O-pyrazinyl phosphorothioate	0,0-Diethyl O-pyrazinyl phosphorothioate	297-97-2	CARBN; or CMBST	CMBST
P041	Diethyl-p-nitrophenyl phosphate	Diethyl-p-nitrophenyl phosphate	311-45-5	CARBN; or CMBST	CMBST
P042	Epinephrine	Epinephrine	51-43-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P043	Diisopropylfluorophosphate (DFP)	Diisopropylfluorophosphate (DFP)	55-91-4	CARBN; or CMBST	CMBST
P044	Dimethoate	Dimethoate	60-51-5	CARBN; or CMBST	CMBST
P045	Thiofanox	Thiofanox	39196-18-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P046	alpha, alpha-Dimethylphenethylamine	alpha, alpha-Dimethylphenethylamine	122-09-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P047	4,6-Dinitro-o-cresol	4,6-Dinitro-o-cresol	543-52-1	0.28	160
	4,6-Dinitro-o-cresol salts	NA	NA	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P048	2,4-Dinitrophenol	2,4-Dinitrophenol	51-28-5	0.12	160
P049	Dithiobiuret	Dithiobiuret	541-53-7	(WETOX or CHOXD) fb CARBN; or	CMBST

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
				CMBST	
P050	Endosulfan	Endosulfan I	939-98-8	0.023	0.066
		Endosulfan II	33213-6-5	0.029	0.13
		Endosulfan sulfate	1031-07-8	0.029	0.13
P051	Endrin	Endrin	72-20-8	0.0028	0.13
		Endrin aldehyde	7421-93-4	0.025	0.13
P054	Aziridine	Aziridine	151-56-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P056	Fluorine	Fluoride (measured in wastewaters only)	16964-48-8	35	ADGAS fb NEUTR
P057	Fluoroacetamide	Fluoroacetamide	640-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P058	Fluoroacetic acid, sodium salt	Fluoroacetic acid, sodium salt	62-74-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P059	Heptachlor	Heptachlor	76-44-8	0.0012	0.066
		Heptachlor epoxide	1024-57-3	0.016	0.066
P060	Isodrin	Isodrin	465-73-6	0.021	0.066
P062	Hexaethyl tetraphosphate	Hexaethyl tetraphosphate	757-58-4	CARBN; or CMBST	CMBST
P063	Hydrogen cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P064	Isocyanic acid, ethyl ester	Isocyanic acid, ethyl ester	624-83-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P065	Mercury fulminate nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.	Mercury	7439-97-6	NA	IMERC
	Mercury fulminate nonwastewaters that are either incinerator residues or are residues from RMERC; and contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	RMERC
	Mercury fulminate nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	0.20 mg/l TCLP
	Mercury fulminate nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	0.025 mg/l TCLP
	All mercury fulminate wastewaters.	Mercury	7439-97-6	0.15	NA
P066	Methomyl	Methomyl	16752-77-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P067	2-Methyl-aziridine	2-Methyl-aziridine	75-55-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P068	Methyl hydrazine	Methyl hydrazine	60-34-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P069	2-Methyllactonitrile	2-Methyllactonitrile	75-86-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P070	Aldicarb	Aldicarb	116-06-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P071	Methyl parathion	Methyl parathion	298-00-0	0.014	4.6

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
P072	1-Naphthyl-2-thiourea	1-Naphthyl-2-thiourea	86-88-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P073	Nickel carbonyl	Nickel	7440-02-0	3.98	11 mg/l TCLP
P074	Nickel cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Nickel	7440-02-0	3.98	11 mg/l TCLP
P075	Nicotine and salts	Nicotine and salts	54-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P076	Nitric oxide	Nitric oxide	10102-43-9	ADGAS	ADGAS
P077	p-Nitroaniline	p-Nitroaniline	100-01-6	0.028	28
P078	Nitrogen dioxide	Nitrogen dioxide	10102-44-0	ADGAS	ADGAS
P081	Nitroglycerin	Nitroglycerin	55-63-0	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P082	N-Nitrosodimethylamine	N-Nitrosodimethylamine	62-75-9	0.40	2.3
P084	N-Nitrosomethylvinylamine	N-Nitrosomethylvinylamine	4549-40-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P085	Octamethylpyrophosphoramide	Octamethylpyrophosphoramide	152-16-9	CARBN; or CMBST	CMBST
P087	Osmium tetroxide	Osmium tetroxide	20816-12-0	RMETL; or RTHRM	RMETL; or RTHRM
P088	Endothall	Endothall	145-73-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P089	Parathion	Parathion	56-38-2	0.014	4.6
P092	Phenyl mercuric acetate nonwastewaters, regardless of their total mercury content, that are not incinerator residues or are not residues from RMERC.	Mercury	7439-97-6	NA	IMERC; or RMERC
	Phenyl mercuric acetate nonwastewaters that are either incinerator residues or are residues from RMERC; and still contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	RMERC
	Phenyl mercuric acetate nonwastewaters that are residues from RMERC and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	0.20 mg/l TCLP
	Phenyl mercuric acetate nonwastewaters that are incinerator residues and contain less than 260 mg/kg total mercury.	Mercury	7439-97-6	NA	0.025 mg/l TCLP
	All phenyl mercuric acetate wastewaters.	Mercury	7439-97-6	0.15	NA
P093	Phenylthiourea	Phenylthiourea	103-85-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P094	Phorate	Phorate	298-02-2	0.021	4.6
P095	Phosgene	Phosgene	75-44-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P096	Phosphine	Phosphine	7803-51-2	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P097	Famphur	Famphur	52-85-7	0.017	15
P098	Potassium cyanide.	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P099	Potassium silver cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
		Silver	7440-22-4	0.43	0.14 mg/l TCLP
P101	Ethyl cyanide (Propanenitrile)	Ethyl cyanide (Propanenitrile)	107-12-0	0.24	360
P102	Propargyl alcohol	Propargyl alcohol	107-19-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P103	Selenourea	Selenium	7782-49-2	0.82	5.7 mg/l TCLP
P104	Silver cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
		Silver	7440-22-4	0.43	0.14 mg/l TCLP
P105	Sodium azide	Sodium azide	26628-22-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P106	Sodium cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P108	Strychnine and salts	Strychnine and salts	57-24-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P109	Tetraethyldithiopyrophosphate	Tetraethyldithiopyrophosphate	3689-24-5	CARBN; or CMBST	CMBST
P110	Tetraethyl lead	Lead	7439-92-1	0.69	0.75 mg/l TCLP
P111	Tetraethylpyrophosphate	Tetraethylpyrophosphate	107-49-3	CARBN; or CMBST	CMBST
P112	Tetranitromethane	Tetranitromethane	509-14-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
P113	Thallic oxide	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
P114	Thallium selenite	Selenium	7782-49-2	0.82	5.7 mg/l TCLP
P115	Thallium (I) sulfate	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
P116	Thiosemicarbazide	Thiosemicarbazide	79-19-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P118	Trichloromethanethiol	Trichloromethanethiol	75-70-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
P119	Ammonium vanadate	Vanadium (measured in wastewaters only)	7440-62-2	4.3	STABL
P120	Vanadium pentoxide	Vanadium (measured in wastewaters only)	7440-62-2	4.3	STABL
P121	Zinc cyanide	Cyanides (Total)[7]	57-12-5	1.2	590
		Cyanides (Amenable)[7]	57-12-5	0.86	30
P122	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
P123	Toxaphene	Toxaphene	8001-35-2	0.0095	2.6
P127	Carbofuran [10]	Carbofuran	1563-66-2	0.006	0.14
P128	Mexacarbate [10]	Mexacarbate	315-18-4	0.056	1.4
P185	Tirpate [10]	Tirpate	26419-73-8	0.056	0.28
P188	Physostigmine salicylate [10]	Physostigmine salicylate	57-64-7	0.056	1.4
P189	Carbosulfan [10]	Carbosulfan	55285-14-8	0.028	1.4
P190	Metolcarb [10]	Metolcarb	1129-41-5	0.056	1.4
P191	Dimetilan [10]	Dimetilan	644-64-4	0.056	1.4
P192	Isolan [10]	Isolan	119-38-0	0.056	1.4
P194	Oxamyl	Oxamyl	23135-22-0	0.056	0.28
P196	Manganese dimethyldithiocarbamate [10]	Dithiocarbamates (total)	NA	0.028	28

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
P197	Formparanate [10]	Formparanate	17702-57-7	0.056	1.4
P198	Formetanate hydrochloride [10]	Formetanate hydrochloride	23422-53-9	0.056	1.4
P199	Methiocarb [10]	Methiocarb	2032-65-7	0.056	1.4
P201	Promecarb [10]	Promecarb	2631-37-0	0.056	1.4
P202	m-Cumenyl methylcarbamate [10]	m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
P203	Aldicarb sulfone [10]	Aldicarb sulfone	1646-88-4	0.056	0.28
P204	Physostigmine [10]	Physostigmine	57-47-6	0.056	1.4
P205	Ziram [10]	Dithiocarbamates (total)	NA	0.028	28
U001	Acetaldehyde	Acetaldehyde	75-07-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U002	Acetone	Acetone	67-64-1	0.28	160
U003	Acetonitrile	Acetonitrile	75-05-8	5.6	CMBST
		Acetonitrile; alternate[6] standard for nonwastewaters only	75-05-8	NA	38
U004	Acetophenone	Acetophenone	98-86-2	0.010	9.7
U005	2-Acetylaminofluorene	2-Acetylaminofluorene	53-96-3	0.059	140
U006	Acetyl chloride	Acetyl Chloride	75-36-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U007	Acrylamide	Acrylamide	79-06-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U008	Acrylic acid	Acrylic acid	79-10-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U009	Acrylonitrile	Acrylonitrile	107-13-1	0.24	84
U010	Mitomycin C	Mitomycin C	50-07-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U011	Amitrole	Amitrole	61-82-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U012	Aniline	Aniline	62-53-3	0.81	14
U014	Auramine	Auramine	492-80-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U015	Azaserine	Azaserine	115-02-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U016	Benz(c)acridine	Benz(c)acridine	225-51-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U017	Benzal chloride	Benzal chloride	98-87-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U018	Benz(a)anthracene	Benz(a)anthracene	56-55-3	0.059	3.4
U019	Benzene	Benzene	71-43-2	0.14	10
U020	Benzenesulfonyl chloride	Benzenesulfonyl chloride	98-09-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U021	Benzidine	Benzidine	92-87-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

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WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U022	Benzo(a)pyrene	Benzo(a)pyrene	50-32-8	0.061	3.4
U023	Benzotrichloride	Benzotrichloride	98-07-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U024	bis(2-Chloroethoxy)methane	bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
U025	bis(2-Chloroethyl)ether	bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
U026	Chlornaphazine	Chlornaphazine	494-03-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U027	bis(2-Chloroisopropyl)ether	bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
U028	bis(2-Ethylhexyl) phthalate	bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
U029	Methyl bromide (Bromomethane)	Methyl bromide (Bromomethane)	74-83-9	0.11	15
U030	4-Bromophenyl phenyl ether	4-Bromophenyl phenyl ether	101-55-3	0.055	15
U031	n-Butyl alcohol	n-Butyl alcohol	71-36-3	5.6	2.6
U032	Calcium chromate	Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
U033	Carbon oxyfluoride	Carbon oxyfluoride	353-50-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U034	Trichloroacetaldehyde (Chloral)	Trichloroacetaldehyde (Chloral)	75-87-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U035	Chlorambucil	Chlorambucil	305-03-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U036	Chlordane	Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
U037	Chlorobenzene	Chlorobenzene	108-90-7	0.057	6.0
U038	Chlorobenzilate	Chlorobenzilate	510-15-6	0.10	CMBST
U039	p-Chloro-m-cresol	p-Chloro-m-cresol	59-50-7	0.018	14
U041	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106-89-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U042	2-Chloroethyl vinyl ether	2-Chloroethyl vinyl ether	110-75-8	0.062	CMBST
U043	Vinyl chloride	Vinyl chloride	75-01-4	0.27	6.0
U044	Chloroform	Chloroform	67-66-3	0.046	6.0
U045	Chloromethane (Methyl chloride)	Chloromethane (Methyl chloride)	74-87-3	0.19	30
U046	Chloromethyl methyl ether	Chloromethyl methyl ether	107-30-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U047	2-Chloronaphthalene	2-Chloronaphthalene	91-58-7	0.055	5.6
U048	2-Chlorophenol	2-Chlorophenol	95-57-8	0.044	5.7
U049	4-Chloro-o-toluidine hydrochloride	4-Chloro-o-toluidine hydrochloride	3165-93-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U050	Chrysene	Chrysene	218-01-9	0.059	3.4
U051	Creosote	Naphthalene	91-20-3	0.059	5.6
		Pentachlorophenol	87-86-5	0.089	7.4
		Phenanthrene	85-01-8	0.059	5.6
		Pyrene	129-00-0	0.067	8.2
		Toluene	108-88-3	0.080	10
		Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
		Lead	7439-92-1	0.69	0.75 mg/l TCLP

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U052	Cresols (Cresylic acid)	o-Cresol	95-48-7	0.11	5.6
		m-Cresol(difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
		p-Cresol(difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
		Cresol-mixed isomers (Cresylic acid)(sum of o-, m-, and p-cresol concentrations)	1319-77-3	0.88	11.2
U053	Crotonaldehyde	Crotonaldehyde	4170-30-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U055	Cumene	Cumene	98-82-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U056	Cyclohexane	Cyclohexane	110-82-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U057	Cyclohexanone	Cyclohexanone	108-94-1	0.36	CMBST
		Cyclohexanone; alternate[6] standard for nonwastewaters only	108-94-1	NA	0.75 mg/l TCLP
U058	Cyclophosphamide	Cyclophosphamide	50-18-0	CARBN; or CMBST	CMBST
U059	Daunomycin	Daunomycin	20830-81-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U060	DDD	o,p'-DDD	53-19-0	0.023	0.087
		p,p'-DDD	72-54-8	0.023	0.087
U061	DDT	o-p'-DDT	789-02-6	0.0039	0.087
		p,p'-DDT	50-29-3	0.0039	0.087
		o,p'-DDD	53-19-0	0.023	0.087
		p,p'-DDD	72-54-8	0.023	0.087
		o,p'-DDE	3424-82-6	0.031	0.087
		p,p'-DDE	72-55-9	0.031	0.087
U062	Diallate	Diallate	2303-16-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U063	Dibenz(a,h)anthracene	Dibenz(a,h)anthracene	53-70-3	0.055	8.2
U064	Dibenz(a,i)pyrene	Dibenz(a,i)pyrene	189-55-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U066	1,2-Dibromo-3-chloropropane	1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
U067	Ethylene dibromide (1,2-Dibromoethane)	Ethylene dibromide (1,2-Dibromoethane)	106-93-4	0.028	15
U068	Dibromomethane	Dibromomethane	74-95-3	0.11	15
U069	Di-n-butyl phthalate	Di-n-butyl phthalate	84-74-2	0.057	28
U070	o-Dichlorobenzene	o-Dichlorobenzene	95-50-1	0.088	6.0
U071	m-Dichlorobenzene	m-Dichlorobenzene	541-73-1	0.036	6.0
U072	p-Dichlorobenzene	p-Dichlorobenzene	106-46-7	0.090	6.0
U073	3,3'-Dichlorobenzidine	3,3'-Dichlorobenzidine	91-94-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U074	1,4-Dichloro-2-butene	cis-1,4-Dichloro-2-butene	1476-11-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
		trans-1,4-Dichloro-2-butene	764-41-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U075	Dichlorodifluoromethane	Dichlorodifluoromethane	75-71-8	0.23	7.2
U076	1,1-Dichloroethane	1,1-Dichloroethane	75-34-3	0.059	6.0
U077	1,2-Dichloroethane	1,2-Dichloroethane	107-06-2	0.21	6.0
U078	1,1-Dichloroethylene	1,1-Dichloroethylene	75-35-4	0.025	6.0
U079	1,2-Dichloroethylene	trans-1,2-Dichloroethylene	156-60-5	0.054	30
U080	Methylene chloride	Methylene chloride	75-09-2	0.089	30
U081	2,4-Dichlorophenol	2,4-Dichlorophenol	120-83-2	0.044	14
U082	2,6-Dichlorophenol	2,6-Dichlorophenol	87-65-0	0.044	14
U083	1,2-Dichloropropane	1,2-Dichloropropane	78-87-5	0.85	18
U084	1,3-Dichloropropylene	cis-1,3-Dichloropropylene	10061-01-5	0.036	18
		trans-1,3-Dichloropropylene	10061-02-6	0.036	18
U085	1,2:3,4-Diepoxybutane	1,2:3,4-Diepoxybutane	1464-53-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U086	N,N'-Diethylhydrazine	N,N'-Diethylhydrazine	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U087	O,O-Diethyl S-methyldithiophosphate	O,O-Diethyl S-methyldithiophosphate	3288-58-2	CARBN; or CMBST	CMBST
U088	Diethyl phthalate	Diethyl phthalate	84-66-2	0.20	28
U089	Diethyl stilbestrol	Diethyl stilbestrol	56-53-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U090	Dihydrosafrole	Dihydrosafrole	94-58-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U091	3,3'-Dimethoxybenzidine	3,3'-Dimethoxybenzidine	119-90-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U092	Dimethylamine	Dimethylamine	124-40-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U093	p-Dimethylaminoazobenzene	p-Dimethylaminoazobenzene	60-11-7	0.13	CMBST
U094	7,12-Dimethylbenz(a)anthracene	7,12-Dimethylbenz(a)anthracene	57-97-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U095	3,3'-Dimethylbenzidine	3,3'-Dimethylbenzidine	119-93-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U096	alpha, alpha-Dimethyl benzyl hydroperoxide	alpha, alpha-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U097	Dimethylcarbamoyl chloride	Dimethylcarbamoyl chloride	79-44-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U098	1,1-Dimethylhydrazine	1,1-Dimethylhydrazine	57-14-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U099	1,2-Dimethylhydrazine	1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST

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		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U101	2,4-Dimethylphenol	2,4-Dimethylphenol	105-67-9	0.036	14
U102	Dimethyl phthalate	Dimethyl phthalate	131-11-3	0.047	28
U103	Dimethyl sulfate	Dimethyl sulfate	77-78-1	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U105	2,4-Dinitrotoluene	2,4-Dinitrotoluene	121-14-2	0.32	140
U106	2,6-Dinitrotoluene	2,6-Dinitrotoluene	606-20-2	0.55	28
U107	Di-n-octyl phthalate	Di-n-octyl phthalate	117-84-0	0.017	28
U108	1,4-Dioxane	1,4-Dioxane	123-91-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
		1,4-Dioxane; alternate[6]	123-91-1	12.0	170
U109	1,2-Diphenylhydrazine	1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
		1,2-Diphenylhydrazine; alternate[6] standard for wastewaters only	122-66-7	0.087	NA
U110	Dipropylamine	Dipropylamine	142-84-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U111	Di-n-propylnitrosamine	Di-n-propylnitrosamine	621-64-7	0.40	14
U112	Ethyl acetate	Ethyl acetate	141-78-6	0.34	33
U113	Ethyl acrylate	Ethyl acrylate	140-88-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U114	Ethylenebisdithiocarbamic acid salts and esters	Ethylenebisdithiocarbamic acid	111-54-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U115	Ethylene oxide	Ethylene oxide	75-21-8	(WETOX or CHOXD) fb CARBN; or CMBST	CHOXD; or CMBST
		Ethylene oxide; alternate[6] standard for wastewaters only	75-21-8	0.12	NA
U116	Ethylene thiourea	Ethylene thiourea	96-45-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U117	Ethyl ether	Ethyl ether	60-29-7	0.12	160
U118	Ethyl methacrylate	Ethyl methacrylate	97-63-2	0.14	160
U119	Ethyl methane sulfonate	Ethyl methane sulfonate	62-50-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U120	Fluoranthene	Fluoranthene	206-44-0	0.068	3.4
U121	Trichloromonofluoromethane	Trichloromonofluoromethane	75-69-4	0.020	30
U122	Formaldehyde	Formaldehyde	50-00-0	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U123	Formic acid	Formic acid	64-18-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U124	Furan	Furan	110-00-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U125	Furfural	Furfural	98-01-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U126	Glycidylaldehyde	Glycidylaldehyde	765-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U127	Hexachlorobenzene	Hexachlorobenzene	118-74-1	0.055	10
U128	Hexachlorobutadiene	Hexachlorobutadiene	87-68-3	0.055	5.6
U129	Lindane	alpha-BHC	319-84-6	0.00014	0.066
		beta-BHC	319-85-7	0.00014	0.066
		delta-BHC	319-86-8	0.023	0.066
		gamma-BHC (Lindane)	58-89-9	0.0017	0.066
U130	Hexachlorocyclopentadiene	Hexachlorocyclopentadiene	77-47-4	0.057	2.4
U131	Hexachloroethane	Hexachloroethane	67-72-1	0.055	30
U132	Hexachlorophene	Hexachlorophene	70-30-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U133	Hydrazine	Hydrazine	302-01-2	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U134	Hydrogen fluoride	Fluoride (measured in wastewaters only)	7664-39-3	35	ADGAS fb NEUTR; or NEUTR
U135	Hydrogen Sulfide	Hydrogen Sulfide	7783-06-4	CHOXD; CHRED, or CMBST	CHOXD; CHRED; or CMBST.
U136	Cacodylic acid	Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
U137	Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene	193-39-5	0.0055	3.4
U138	Iodomethane	Iodomethane	74-88-4	0.19	65
U140	Isobutyl alcohol	Isobutyl alcohol	78-83-1	5.6	170
U141	Isosafrole	Isosafrole	120-58-1	0.081	2.6
U142	Kepone	Kepone	143-50-8	0.0011	0.13
U143	Lasiocarpine	Lasiocarpine	303-34-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U144	Lead acetate	Lead	7439-92-1	0.69	0.75 mg/l TCLP
U145	Lead phosphate	Lead	7439-92-1	0.69	0.75 mg/l TCLP
U146	Lead subacetate	Lead	7439-92-1	0.69	0.75 mg/l TCLP
U147	Maleic anhydride	Maleic anhydride	108-31-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U148	Maleic hydrazide	Maleic hydrazide	123-33-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U149	Malononitrile	Malononitrile	109-77-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U150	Melphalan	Melphalan	148-82-3	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U151	U151 (mercury) nonwastewaters that contain greater than or equal to 260 mg/kg total mercury.	Mercury	7439-97-6	NA	RMERC

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
	U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are residues from RMERC only.	Mercury	7439-97-6	NA	0.20 mg/l TCLP
	U151 (mercury) nonwastewaters that contain less than 260 mg/kg total mercury and that are not residues from RMERC.	Mercury	7439-97-6	NA	0.025 mg/l TCLP
	All U151 (mercury) wastewaters.	Mercury	7439-97-6	0.15	NA
	Elemental Mercury Contaminated with Radioactive Materials	Mercury	7439-97-6	NA	AMLGM
U152	Methacrylonitrile	Methacrylonitrile	126-98-7	0.24	84
U153	Methanethiol	Methanethiol	74-93-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U154	Methanol	Methanol	67-56-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
		Methanol; alternate[6] set of standards for both wastewaters and nonwastewaters	67-56-1	5.6	0.75 mg/l TCLP
U155	Methapyrilene	Methapyrilene	91-80-5	0.081	1.5
U156	Methyl chlorocarbonate	Methyl chlorocarbonate	79-22-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U157	3-Methylcholanthrene	3-Methylcholanthrene	56-49-5	0.0055	15
U158	4,4'-Methylene bis(2-chloroaniline)	4,4'-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
U159	Methyl ethyl ketone	Methyl ethyl ketone	78-93-3	0.28	36
U160	Methyl ethyl ketone peroxide	Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or CMBST	CHOXD; CHRED; or CMBST
U161	Methyl isobutyl ketone	Methyl isobutyl ketone	108-10-1	0.14	33
U162	Methyl methacrylate	Methyl methacrylate	80-62-6	0.14	160
U163	N-Methyl N'-nitro N-nitrosoguanidine	N-Methyl N'-nitro N-nitrosoguanidine	70-25-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U164	Methylthiouracil	Methylthiouracil	56-04-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U165	Naphthalene	Naphthalene	91-20-3	0.059	5.6
U166	1,4-Naphthoquinone	1,4-Naphthoquinone	130-15-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U167	1-Naphthylamine	1-Naphthylamine	134-32-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U168	2-Naphthylamine	2-Naphthylamine	91-59-8	0.52	CMBST
U169	Nitrobenzene	Nitrobenzene	98-95-3	0.068	14
U170	p-Nitrophenol	p-Nitrophenol	100-02-7	0.12	29
U171	2-Nitropropane	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U172	N-Nitrosodi-n-butylamine	N-Nitrosodi-n-butylamine	924-16-3	0.40	17
U173	N-Nitrosodiethanolamine	N-Nitrosodiethanolamine	1116-54-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U174	N-Nitrosodiethylamine	N-Nitrosodiethylamine	55-18-5	0.40	28

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U176	N-Nitroso-N-ethylurea	N-Nitroso-N-ethylurea	759-73-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U177	N-Nitroso-N-methylurea	N-Nitroso-N-methylurea	684-93-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U178	N-Nitroso-N-methylurethane	N-Nitroso-N-methylurethane	615-53-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U179	N-Nitrosopiperidine	N-Nitrosopiperidine	100-75-4	0.013	35
U180	N-Nitrosopyrrolidine	N-Nitrosopyrrolidine	930-55-2	0.013	35
U181	5-Nitro-o-toluidine	5-Nitro-o-toluidine	99-55-8	0.32	28
U182	Paraldehyde	Paraldehyde	123-63-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U183	Pentachlorobenzene	Pentachlorobenzene	608-93-5	0.055	10
U184	Pentachloroethane	Pentachloroethane	76-01-7	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
		Pentachloroethane; alternate[6] standards for both wastewaters and nonwastewaters	76-01-7	0.055	6.0
U185	Pentachloronitrobenzene	Pentachloronitrobenzene	82-68-8	0.055	4.8
U186	1,3-Pentadiene	1,3-Pentadiene	504-60-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U187	Phenacetin	Phenacetin	62-44-2	0.081	16
U188	Phenol	Phenol	108-95-2	0.039	6.2
U189	Phosphorus sulfide	Phosphorus sulfide	1314-80-3	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U190	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid	Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	100-21-0	0.055	28
		Phthalic anhydride (measured as Phthalic acid or Terephthalic acid)	85-44-9	0.055	28
U191	2-Picoline	2-Picoline	109-06-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U192	Pronamide	Pronamide	23950-58-5	0.093	1.5
U193	1,3-Propane sultone	1,3-Propane sultone	1120-71-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U194	n-Propylamine	n-Propylamine	107-10-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U196	Pyridine	Pyridine	110-86-1	0.014	16
U197	p-Benzoquinone	p-Benzoquinone	106-51-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U200	Reserpine	Reserpine	50-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U201	Resorcinol	Resorcinol	108-46-3	(WETOX or CHOXD) fb	CMBST

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
				CARBN; or CMBST	
U202	Saccharin and salts	Saccharin	81-07-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U203	Safrole	Safrole	94-59-7	0.081	22
U204	Selenium dioxide	Selenium	7782-49-2	0.82	5.7 mg/l TCLP
U205	Selenium sulfide	Selenium	7782-49-2	0.82	5.7 mg/l TCLP
U206	Streptozotocin	Streptozotocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U207	1,2,4,5-Tetrachlorobenzene	1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
U208	1,1,1,2-Tetrachloroethane	1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
U209	1,1,2,2-Tetrachloroethane	1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
U210	Tetrachloroethylene	Tetrachloroethylene	127-18-4	0.056	6.0
U211	Carbon tetrachloride	Carbon tetrachloride	56-23-5	0.057	6.0
U213	Tetrahydrofuran	Tetrahydrofuran	109-99-9	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U214	Thallium (I) acetate	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
U215	Thallium (I) carbonate	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
U216	Thallium (I) chloride	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
U217	Thallium (I) nitrate	Thallium (measured in wastewaters only)	7440-28-0	1.4	RTHRM; or STABL
U218	Thioacetamide	Thioacetamide	62-55-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U219	Thiourea	Thiourea	62-56-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U220	Toluene	Toluene	108-88-3	0.080	10
U221	Toluenediamine	Toluenediamine	25376-45-8	CARBN; or CMBST	CMBST
U222	o-Toluidine hydrochloride	o-Toluidine hydrochloride	636-21-5	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U223	Toluene diisocyanate	Toluene diisocyanate	26471-62-5	CARBN; or CMBST	CMBST
U225	Bromoform (Tribromomethane)	Bromoform (Tribromomethane)	75-25-2	0.63	15
U226	1,1,1-Trichloroethane	1,1,1-Trichloroethane	71-55-6	0.054	6.0
U227	1,1,2-Trichloroethane	1,1,2-Trichloroethane	79-00-5	0.054	6.0
U228	Trichloroethylene	Trichloroethylene	79-01-6	0.054	6.0
U234	1,3,5-Trinitrobenzene	1,3,5-Trinitrobenzene	99-35-4	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U235	tris-(2,3-Dibromopropyl)-phosphate	tris-(2,3-Dibromopropyl)-phosphate	126-72-7	0.11	0.10
U236	Trypan Blue	Trypan Blue	72-57-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U237	Uracil mustard	Uracil mustard	66-75-1	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST

268.40 Table - Treatment Standards For Hazardous Waste

WASTE CODE	Waste Description And Treatment/Regulatory Subcategory[1] (11/99, 8/00, 6/04, 2/07) NOTE: fb means followed by	Regulated hazardous constituent NOTE: NA means not applicable		Waste waters	Non waste waters
		Common Name	CAS[2] Number	Concentration[3] in mg/l; or Technology Code[4]	Concentration[5] in mg/kg unless noted as mg/l TCLP or Technology Code[4]
U238	Urethane (Ethyl carbamate)	Urethane (Ethyl carbamate)	51-79-6	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U239	Xylenes	Xylenes-mixed isomers(sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
U240	2,4-D (2,4-Dichlorophenoxyacetic acid)	2,4-D (2,4-Dichlorophenoxyacetic acid)	94-75-7	0.72	10
	2,4-D (2,4-Dichlorophenoxyacetic acid) salts and esters		NA	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U243	Hexachloropropylene	Hexachloropropylene	1888-71-7	0.035	30
U244	Thiram	Thiram	137-26-8	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U246	Cyanogen bromide	Cyanogen bromide	506-68-3	CHOXD; WETOX; or CMBST	CHOXD; WETOX; or CMBST
U247	Methoxychlor	Methoxychlor	72-43-5	0.25	0.18
U248	Warfarin, & salts, when present at concentrations of 0.3% or less	Warfarin	81-81-2	(WETOX or CHOXD) fb CARBN; or CMBST	CMBST
U249	Zinc phosphide, Zn_3P_2, when present at concentrations of 10% or less	Zinc Phosphide	1314-84-7	CHOXD; CHRED; or CMBST	CHOXD; CHRED; or CMBST
U271	Benomyl [10]	Benomyl	17804-35-2	0.056	1.4
U278	Bendiocarb [10]	Bendiocarb	22781-23-3	0.056	1.4
U279	Carbaryl [10]	Carbaryl	63-25-2	0.006	0.14
U280	Barban [10]	Barban	101-27-9	0.056	1.4
U328	o-Toluidine	o-Toluidine	95-53-4	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN.	CMBST
U353	p-Toluidine	p-Toluidine	106-49-0	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN	CMBST
U359	2-Ethoxyethanol	2-Ethoxyethanol	110-80-5	CMBST; or CHOXD fb (BIODG or CARBN); or BIODG fb CARBN	CMBST
U364	Bendiocarb phenol [10]	Bendiocarb phenol	22961-82-6	0.056	1.4
U367	Carbofuran phenol [10]	Carbofuran phenol	1563-38-8	0.056	1.4
U372	Carbendazim [10]	Carbendazim	10605-21-7	0.056	1.4
U373	Propham [10]	Propham	122-42-9	0.056	1.4
U387	Prosulfocarb [10]	Prosulfocarb	52888-80-9	0.042	1.4
U389	Triallate [10]	Triallate	2303-17-5	0.042	1.4
U394	A2213 [10]	A2213	30558-43-1	0.042	1.4
U395	Diethylene glycol, dicarbamate [10]	Diethylene glycol, dicarbamate	5952-26-1	0.056	1.4
U404	Triethylamine [10]	Triethylamine	101-44-8	0.081	1.5
U409	Thiophanate-methyl [10]	Thiophanate-methyl	23564-05-8	0.056	1.4
U410	Thiodicarb [10]	Thiodicarb	59669-26-0	0.019	1.4
U411	Propoxur [10]	Propoxur	114-26-1	0.056	1.4

Footnotes To Treatment Standard Table 268.40

1 The waste descriptions provided in this table do not replace waste descriptions in 261. Descriptions of Treatment/Regulatory Subcategories are provided, as needed, to distinguish between applicability of different standards.

2 CAS means Chemical Abstract Services. When the waste code and/or regulated constituents are described as a combination of a chemical with its salts and/or esters, the CAS number is given for the parent compound only.

3 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.

4 All treatment standards expressed as a Technology Code or combination of Technology Codes are explained in detail in 268.42 Table 1 - Technology Codes and Descriptions of Technology-Based Standards.

5 Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of Part 264 Subpart O or Part 265 Subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in 268.40(d). All concentration standards for nonwastewaters are based on analysis of grab samples.

6 Where an alternate treatment standard or set of alternate standards has been indicated, a facility may comply with this alternate standard, but only for the Treatment/Regulatory Subcategory or physical form (i.e., wastewater and/or nonwastewater) specified for that alternate standard.

7 Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010C or 9012B, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA Publication SW-846, as incorporated by reference in 260.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.(2/07)

8 These wastes, when rendered nonhazardous and then subsequently managed in CWA, or CWA-equivalent systems, are not subject to treatment standards. (See 268.1(c)(3)and (4)), (See R.61-87.11.D.2).

9 [Reserved 8/00]

10 The treatment standard for this waste may be satisfied by either meeting the constituent concentrations in this table or by treating the waste by the specified technologies: combustion, as defined by the technology code CMBST at 268.42 Table 1 of this Part, for nonwastewaters; and, biodegradation as defined by the technolgy code BIODG, carbon adsorption as defined by the technology code CARBN, chemical oxidation as defined by the technology code CHOXD, or combustion as defined as technology code CMBST at 268.42 Table 1 of this Part, for wastewaters. (8/00)

11 For these wastes, the definition of CMBST is limited to: (1) combustion units operating under 266, (2) combustion units permitted under Part 264, Subpart O, or (3) combustion units operating under 265, Subpart O, which have obtained a determination of equivalent treatment under 268.42 (b).[Note: NA means not applicable]

Note: The treatment standards that heretofore appeared in tables in 268.41, 268.42, and 268.43 of this part have been consolidated into the table "Treatment Standards for Hazardous Wastes." (9/01)

12 Disposal of K175 wastes that have complied with all applicable 268.40 treatment standards must also be macroencapsulated in accordance with 268.45 Table 1 unless the waste is placed in:

(1) A Subtitle C monofill containing only K175 wastes that meet all applicable 268.40 treatment standards; or

(2) A dedicated Subtitle C landfill cell in which all other wastes being co-disposed are at pH 6.0.

268.41 Treatment standards expressed as concentrations in waste extract

(11/90)

For the requirements previously found in this section and for treatment standards in Table CCWE-Constituent Concentrations in Waste Extracts, refer to 268.40. (5/96)

268.42 Treatment standards expressed as specified technologies

(11/90)

Note: For the requirements previously found in this section in Table 2 - Technology-Based Standards By RCRA Waste Code, and Table 3 - Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to 268.40 (11/99).

(a) The following wastes in the table in 268.40 "Treatment Standards for Hazardous Wastes," for which standards are expressed as a treatment method rather than a concentration level, must be treated using the technology or technologies specified in the table entitled "Technology Codes and Descriptions of Technology-Based Standards" in this section. (12/92; 5/96, 11/99)

268.42(a) Table 1 - Technology Codes and Description of Technology-Based Standards

Technology code	Description of technology-based standards (9/98)
ADGAS:	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)-venting can be accomplished through physical release utilizing valves/piping; physical penetration of the container; and/or penetration through detonation.
AMLGM:	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.
BIODG:	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).
CARBN:	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.

CHOXD:	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations of reagents: (1) Hypochlorite (e.g. bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals(e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.
CHRED:	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts or sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
CMBST:	High temperature organic destruction technologies, such as combustion in incinerators, boilers, or industrial furnaces operated in accordance with the applicable requirements of part 264, Subpart O, or part 265, subpart O, or 266, Subpart H, and in other units operated in accordance with applicable technical operating requirements; and certain non-combustive technologies, such as the Catalytic Extraction Process. (5/96, 9/98)
DEACT:	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.
FSUBS:	Fuel substitution in units operated in accordance with applicable technical operating requirements.
HLVIT:	Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.
IMERC:	Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of 264 subpart 0 and part 265 subpart 0. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
INCIN:	Incineration in units operated in accordance with the technical operating requirements of 264 subpart 0 and part 265 subpart 0.
LLEXT:	Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extractedliquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.
MACRO:	Macroencapsulation with surface coating materials such as polymeric organics (e.g. resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to 260.10.
NEUTR:	Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.
NLDBR:	No land disposal based on recycling.
POLYM:	Formation of complex high-molecular weight solids through polymerization of monomers in high-TOC D001 non-wastewaters which are chemical components in the manufacture of plastics. (9/98)
PRECP:	Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, fluorides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium; (2) caustic (i.e., sodium and/or potassium hydroxides; (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional flocculating, coagulation or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.
RBERY:	Thermal recovery of Beryllium.
RCGAS:	Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse or resale; and use of the gas as a fuel source.
RCORR:	Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid- Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RLEAD:	Thermal recovery of lead in secondary lead smelters.
RMERC:	Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) a National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
RMETL:	Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) Ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystallization; (6) ultrafiltration and/or (7) simple precipitation (i.e., crystallization) - Note: This does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RORGS:	Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals); - Note: this does not preclude the use of other physical phase separation techniques such as a decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RTHRM:	Thermal recovery of metals or inorganics from nonwastewaters in units identified as industrial furnaces according to 260.10 (1), (6), (7), (11), and (12) under the definition of "industrial furnaces".
RZINC:	Resmelting in high temperature metal recovery units for the purpose of recovery of zinc.
STABL:	Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust) - this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic.

SSTRP:	Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as temperature and pressure ranges, have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit, such as the number of separation stages and the internal column design, thus resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.
WETOX:	Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).
WTRRX:	Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

Note 1: When a combination of these technologies (i.e., a treatment train) is specified as a single treatment standard, the order of application is specified in 268.42, Table 2 by indicating the five letter technology code that must be applied first, then the designation "fb." (an abbreviation for "followed by"), then the five letter technology code for the technology that must be applied next, and so on.

[Note: For the requirements previously found in this section in Table 2 - Technology-Based Standards By RCRA Waste Code, and Table 3 - Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste, refer to 268.40 effective 5/96). 268.42 Table 3. Technology-Based Standards for Specific Radioactive Hazardous Mixed Waste removed 5/96

(b) Any person may submit an application to the Department and the Regional Administrator demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achieved by methods specified in paragraphs (a), (c), and (d) of this section for wastes or specified in Table 1 of 268.45 for hazardous debris. The applicant must submit information demonstrating that his treatment method is in compliance with federal, state, and local requirements and is protective of human health and the environment. On the basis of such information and any other available information, the Department and the Regional Administrator may approve the use of the alternative treatment method if it finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in paragraphs (a), (c), and (d) of this section for wastes or in Table 1 of 268.45 for hazardous debris. Any approval must be stated in writing and may contain such provisions and conditions as the Department and the Regional Administrator deems appropriate. The person to whom such approval is issued must comply with all limitations contained in such a determination. (12/93)

(c) As an alternative to the otherwise applicable subpart D treatment standards, lab packs are eligible for land disposal provided the following requirements are met:

(1) The lab packs comply with the applicable provisions of 264.316 and 265.316;

(2) The lab packs do not contain any of the wastes listed in Appendix IV to part 268. (5/96)

(3) The lab packs are incinerated in accordance with the requirements of part 264, subpart O or part 265, subpart O; and (9/98)

(4) Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in compliance with the applicable treatment standards specified for such wastes in subpart D of this part. (9/98)

(d) Radioactive hazardous mixed wastes are subject to the treatment standards in 268.40. Where treatment standards are specified for radioactive mixed wastes in the Table of Treatment Standards, those treatment standards will govern. Where there is no specific treatment standard for radioactive mixed waste, the treatment standard for the hazardous waste (as designated by EPA waste code) applies. Hazardous debris containing radioactive waste is subject to the treatment standards specified in 268.45. (12/93; 5/96, 9/98)

268.43 Treatment standards expressed as waste concentrations

(11/90, 5/96)

For the requirements previously found in this section and for treatment standards in Table CCW-Constituent Concentrations in Wastes, refer to 268.40.

268.44 Variance from a treatment standard

(a) Based on a petition filed by a generator or treater of hazardous waste, the Administrator may approve a variance from an applicable treatment standard if: (11/99)

(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner must either demonstrate that:

(i) Treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media where the treatment standard is not based on combustion of such media); or

(ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(b) Each petition must be submitted in accordance with the procedures in R.61-79.260.20.

(c) Each petition must include the following statement signed by the petitioner or an authorized representative: (11/90)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(d) After receiving a petition for variance from a treatment standard, the Administrator may request any additional information or samples which he may require to evaluate the petition. Additional copies of the complete petition may be requested as needed to send to affected states and Regional Offices. (11/90, 11/99)

(e) The Regional Administrator will give public notice in the Federal Register of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a variance from a treatment standard will be published in the Federal Register. (11/99)

(f) A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards must comply with the waste analysis requirements for restricted wastes found under section 268.7.

(g) During the petition review process, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(h) Based on a petition filed by a generator or treater of hazardous waste, the Department may approve a site-specific variance from an applicable treatment standard if: (11/99)

(1) It is not physically possible to treat the waste to the level specified in the treatment standard, or by the method specified as the treatment standard. To show that this is the case, the petitioner must demonstrate that because the physical or chemical properties of the waste differ significantly from waste analyzed in developing the treatment standard, the waste cannot be treated to the specified level or by the specified method; or

(2) It is inappropriate to require the waste to be treated to the level specified in the treatment standard or by the method specified as the treatment standard, even though such treatment is technically possible. To show that this is the case, the petitioner must either demonstrate that:

(i) Treatment to the specified level or by the specified method is technically inappropriate (for example, resulting in combustion of large amounts of mildly contaminated environmental media where the treatment standard is not based on combustion of such media); or

(ii) For remediation waste only, treatment to the specified level or by the specified method is environmentally inappropriate because it would likely discourage aggressive remediation.

(3) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below (i.e., lower than) the concentrations necessary to minimize short- and long-term threats to human health and the environment. Treatment variances approved under this paragraph must:

(i) At a minimum, impose alternative land disposal restriction treatment standards that, using a reasonable maximum exposure scenario:

(A) For carcinogens, achieve constituent concentrations that result in the total excess risk to an individual exposed over a lifetime generally falling within a range from 10^{-4} to 10^{-6}; and

(B) For constituents with non-carcinogenic effects, achieve constituent concentrations that an individual could be exposed to on a daily basis without appreciable risk of deleterious effect during a lifetime.

(ii) Not consider post-land-disposal controls.

(4) For contaminated soil only, treatment to the level or by the method specified in the soil treatment standards would result in concentrations of hazardous constituents that are below (i.e., lower than) natural background concentrations at the site where the contaminated soil will land disposed.

(5) Public notice and a reasonable opportunity for public comment must be provided before granting or denying a petition.

(i) Each application for a site-specific variance from a treatment standard must include the information in 260.20(b)(1) - (4). (11/90)

(j) After receiving an application for a site-specific variance from a treatment standard, the Department may request any additional information or samples which may be required to evaluate the application. (11/90, 12/93,11/99)

(k) A generator, treatment facility, or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard must comply with the waste analysis requirements for restricted wastes found under 268.7. (11/90)

(l) During the application review process, the applicant for a site-specific variance must comply with all restrictions on land disposal under this part once the effective date for the waste has been reached. (11/90)

(m) For all variances, the petitioner must also demonstrate that compliance with any given treatment variance is sufficient to minimize threats to human health and the environment posed by land disposal of the waste. In evaluating this demonstration, the

Department may take into account whether a treatment variance should be approved if the subject waste is to be used in a manner constituting disposal pursuant to 266.20 through 266.23. (11/99)

(n) [Reserved 12/92]

(o) The following facilities are excluded from the treatment standards under 268.40, and are subject to the following constituent concentrations: (12/92, 9/98)

(p) [Reserved 11/99]

268.44 Table -Wastes Excluded From The Treatment Standards Under 268.40

Facility name[1] and address	Waste code	See also (9/98)	Regulated hazardous constituent	Wastewaters		Nonwastewaters	
				Concentration (mg/l)	Notes	Concentration (mg/kg)	Notes
Craftsman Plating & Tinning, Corp., Chicago, IL.	F006	Table CCWE in 268.40	Cyanides (Total)	1.2	([2])	1800	([4])
			Cyanides (Amenable)	.86	([2] & [3])	30	([4])
			Cadmium	1.6	------	NA	------
			Chromium	.32	------	NA	------
			Lead	.040	------	NA	------
			Nickel	.44	------	NA	------
Northwestern Plating Works, Inc., Chicago, IL	F006	Table CCWE in 268.40	Cyanides (Total)	1.2	([2] & [3])	970	([4])
			Cyanides (Amenable)	.86	([2])	30	([4])
			Cadmium	1.6	------	NA	------
			Chromium	.32	------	NA	------
			Lead	.040	------	NA	------
			Nickel	.44	------	NA	------

([1])-A facility may certify compliance with these treatment standards according to provisions in 268.7.
([2])-Cyanide Wastewater Standards for F006 are based on analysis of composite samples.
([3])-These facilities must comply with 0.86 mg/l for amenable cyanides in the wastewater exiting the alkaline chlorination system. These facilities must also comply with 268.7.a.4 for appropriate monitoring frequency consistent with the facilities' waste analysis plan.
([4])-Cyanide nonwastewaters are analyzed using SW-846 Method 9010 or 9012, sample size 10 grams, distillation time, 1 hour and 15 minutes.
Note: NA means Not Applicable.

268.45 Treatment standards for hazardous debris. (12/93)

(a) Treatment standards. Hazardous debris must be treated prior to land disposal as follows unless the Department determines under 261.3(f)(2) of this chapter that the debris is no longer contaminated with hazardous waste or the debris is treated to the waste-specific treatment standard provided in this subpart for the waste contaminating the debris: (5/96)

(1) General. Hazardous debris must be treated for each "contaminant subject to treatment" defined by paragraph (b) of this section using the technology or technologies identified in Table 1 of this section.

(2) Characteristic debris. Hazardous debris that exhibits the characteristic of ignitability, corrosivity, or reactivity identified under 261.21, 261.22, and 261.23 of this chapter, respectively, must be deactivated by treatment using one of the technologies identified in Table 1 of this section.

(3) Mixtures of debris types. The treatment standards of Table 1 in this section must be achieved for each type of debris contained in a mixture of debris types. If an immobilization technology is used in a treatment train, it must be the last treatment technology used.

(4) Mixtures of contaminant types. Debris that is contaminated with two or more contaminants subject to treatment identified under paragraph (b) of this section must be treated for each contaminant using one or more treatment technologies identified in Table 1 of this section. If an immobilization technology is used in a treatment train, it must be the last treatment technology used.

(5) Waste PCBs. Hazardous debris that is also a waste PCB under 40 CFR part 761 is subject to the requirements of either 40 CFR part 761 or the requirements of this section, whichever are more stringent.

(b) Contaminants subject to treatment. Hazardous debris must be treated for each "contaminant subject to treatment." The contaminants subject to treatment must be determined as follows:

(1) Toxicity characteristic debris. The contaminants subject to treatment for debris that exhibits the Toxicity Characteristic (TC) by 261.24 of this chapter are those EP constituents for which the debris exhibits the TC toxicity characteristic.

(2) Debris contaminated with listed waste. The contaminants subject to treatment for debris that is contaminated with a prohibited listed hazardous waste are those constituents or wastes for which treatment standards are established for the waste under 268.40. (5/96)

(3) Cyanide reactive debris. Hazardous debris that is reactive because of cyanide must be treated for cyanide.

(c) Conditioned exclusion of treated debris. Hazardous debris that has been treated using one of the specified extraction or destruction technologies in Table 1 of this section and that does not exhibit a characteristic of hazardous waste identified under subpart C, part 261, of this chapter after treatment is not a hazardous waste and need not be managed in a subtitle C facility. Hazardous debris contaminated with a listed waste that is treated by an immobilization

technology specified in Table 1 is a hazardous waste and must be managed in a subtitle C facility.

(d) Treatment residuals-

(1) General requirements. Except as provided by paragraphs (d)(2) and (d)(4) of this section:

(i) Residue from the treatment of hazardous debris must be separated from the treated debris using simple physical or mechanical means; and

(ii) Residue from the treatment of hazardous debris is subject to the waste-specific treatment standards provided by subpart D of this part for the waste contaminating the debris.

(2) Nontoxic debris. Residue from the deactivation of ignitable, corrosive, or reactive characteristic hazardous debris (other than cyanide-reactive) that is not contaminated with a contaminant subject to treatment defined by paragraph (b) of this section, must be deactivated prior to land disposal and is not subject to the waste-specific treatment standards of subpart D of this part.

(3) Cyanide-reactive debris. Residue from the treatment of debris that is reactive because of cyanide must meet the treatment standards for D003 in "Treatment Standards for Hazardous Wastes" at 268.40. (11/99)

(4) Ignitable nonwastewater residue. Ignitable nonwastewater residue containing equal to or greater than 10% total organic carbon is subject to the technology specified in the treatment standard for D001: Ignitable Liquids. (11/99)

(5) Residue from spalling. Layers of debris removed by spalling are hazardous debris that remain subject to the treatment standards of this section.

Table 1.-Alternative Treatment Standards For Hazardous Debris[1]

Technology description	Performance and/or design and operating standard	Contaminant restrictions[2]
A. Extraction Technologies:		
1. Physical Extraction		
a. Abrasive Blasting: Removal of contaminated debris surface layers using water and/or air pressure to propel a solid media (e.g., steel shot, aluminum oxide grit, plastic beads).	Glass, Metal, Plastic, Rubber: Treatment to a clean debris surface.[3] Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Removal of at least 0.6 cm of the surface layer; treatment to a clean debris surface.[3]	All Debris: None.
b. Scarification, Grinding, and Planing: Process utilizing striking piston heads, saws, or rotating grinding wheels such that contaminated debris surface layers are removed.	Same as above	Same as above
c. Spalling: Drilling or chipping holes at appropriate locations and depth in the contaminated debris surface and applying a tool which exerts a force on the sides of those holes such that the surface layer is removed. The surface layer removed remains hazardous debris subject to the debris treatment standards.	Same as above	Same as above
d. Vibratory Finishing: Process utilizing scrubbing media, flushing fluid, and oscillating energy such that hazardous contaminants or contaminated debris surface layers are removed.[4]	Same as above	Same as above
e. High Pressure Steam and Water Sprays: Application of water or steam sprays of sufficient temperature, pressure, residence time, agitation, surfactants, and detergents to remove hazardous contaminants from debris surfaces or to remove contaminated debris surface layers	Same as above	Same as above.
2. Chemical Extraction		
a. Water Washing and Spraying: Application of water sprays or water baths of sufficient temperature, pressure, residence time, agitation, surfactants, acids, bases, and detergents to remove hazardous contaminants from debris surfaces and surface pores or to remove contaminated debris surface layers.	All Debris: Treatment to a clean debris surface[3]; Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1/2 inch) in one dimension (i.e., thickness limit,[5] except that this thickness limit may be waived under an "Equivalent Technology" approval under 268.42(b);[8] debris surfaces must be in contact with water solution for at least 15 minutes	Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Contaminant must be soluble to at least 5% by weight in water solution or 5% by weight in emulsion; if debris is contaminated with a dioxin-listed waste,[6] an "Equivalent Technology" approval under 268.42(b) must be obtained.[8]
b. Liquid Phase Solvent Extraction: Removal of hazardous contaminants from debris surfaces and surface pores by applying a nonaqueous liquid or liquid solution which causes the hazardous contaminants to enter the liquid phase and be flushed away from the debris along with the liquid or liquid solution while using appropriate agitation, temperature, and residence time.[4]	Same as above	Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Same as above, except that contaminant must be soluble to at least 5% by weight in the solvent.
c. Vapor Phase Solvent Extraction: Application of an organic vapor using sufficient agitation, residence time, and temperature to cause hazardous contaminants on contaminated debris surfaces and surface pores to enter the vapor phase and be flushed away with the organic vapor.[4]	Same as above, except that brick, cloth, concrete, paper, pavement, rock and wood surfaces must be in contact with the organic vapor for at least 60 minutes.	Same as above.
3. Thermal Extraction		

Table 1.-Alternative Treatment Standards For Hazardous Debris[1]

Technology description	Performance and/or design and operating standard	Contaminant restrictions[2]
a. High Temperature Metals Recovery: Application of sufficient heat, residence time, mixing, fluxing agents, and/or carbon in a smelting, melting, or refining furnace to separate metals from debris.	For refining furnaces, treated debris must be separated from treatment residuals using simple physical or mechanical means,[9] and, prior to further treatment, such residuals must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris.	Debris contaminated with a dioxin-listed waste:[5] Obtain an "Equivalent Technology" approval under 268.42(b).[8]
b. Thermal Desorption: Heating in an enclosed chamber under either oxidizing or nonoxidizing atmospheres at sufficient temperature and residence time to vaporize hazardous contaminants from contaminated surfaces and surface pores and to remove the contaminants from the heating chamber in a gaseous exhaust gas.[7]	All Debris: Obtain an "Equivalent Technology" approval under 268. 42(b);[8] treated debris must be separated from treatment residuals using simple physical or mechanical means,[9] and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 10 cm (4 inches) in one dimension (i.e., thickness limit),[5] except that this thickness limit may be waived under the "Equivalent Technology" approval	All Debris: Metals other than mercury.
B. Destruction Technologies:		
1. Biological Destruction (Biodegradation): Removal of hazardous contaminants from debris surfaces and surface pores in an aqueous solution and biodegration of organic or nonmetallic inorganic compounds (i.e., inorganics that contain phosphorus, nitrogen, or sulfur) in units operated under either aerobic or anaerobic conditions.	All Debris: Obtain an "Equivalent Technology" approval under 268. 42(b);[8] treated debris must be separated from treatment residuals using simple physical or mechanical means,[9] and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1/2 inch) in one dimension (i.e., thickness limit),[5] except that this thickness limit may be waived under the "Equivalent Technology" approval	All Debris: Metal contaminants.
2. Chemical Destruction		
a. Chemical Oxidation: Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combination of reagents - (1) hypochlorite (e.g., bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permanganates; and/or (9) other oxidizing reagents of equivalent destruction efficiency.[4] Chemical oxidation specifically includes what is referred to as alkaline chlorination.	All Debris: Obtain an "Equivalent Technology" approval under 268. 42(b);[8] treated debris must be separated from treatment residuals using simple physical or mechanical means,[9] and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris. Brick, Cloth, Concrete, Paper, Pavement, Rock, Wood: Debris must be no more than 1.2 cm (1/2 inch) in one dimension (i.e., thickness limit),[5] except that this thickness limit may be waived under the "Equivalent Technology" approval	All Debris: Metal contaminants.
b. Chemical Reduction: Chemical reaction utilizing the following reducing reagents (or waste reagents) or combination of reagents: (1) sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, and metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency.[4]	Same as above	Same as above.

Table 1.-Alternative Treatment Standards For Hazardous Debris[1]		
Technology description	Performance and/or design and operating standard	Contaminant restrictions[2]
3. Thermal Destruction: Treatment in an incinerator operating in accordance with Subpart O of Parts 264 or 265 of this chapter; a boiler or industrial furnace operating in accordance with Subpart H of Part 266 of this chapter, or other thermal treatment unit operated in accordance with Subpart X, Part 264 of this chapter, or Subpart P, Part 265 of this chapter, but excluding for purposes of these debris treatment standards Thermal Desorption units.	Treated debris must be separated from treatment residuals using simple physical or mechanical means,[9] and, prior to further treatment, such residue must meet the waste-specific treatment standards for organic compounds in the waste contaminating the debris.	Brick, Concrete, Glass, Metal, Pavement, Rock, Metal: Metals other than mercury, except that there are no metal restrictions for vitrification. Debris contaminated with a dioxin-listed waste.[6] Obtain an "Equivalent Technology" approval under 268.42(b),[8] except that this requirement does not apply to vitrification.
C. Immobilization Technologies: 1. Macroencapsulation: Application of surface coating materials such as polymeric organics (e.g., resins and plastics) or use of a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media.	Encapsulating material must completely encapsulate debris and be resistant to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).	None.
2. Microencapsulation: Stabilization of the debris with the following reagents (or waste reagents) such that the leachability of the hazardous contaminants is reduced: (1) Portland cement; or (2) lime/ pozzolans (e.g., fly ash and cement kiln dust). Reagents (e.g., iron salts, silicates, and clays) may be added to enhance the set/cure time and/or compressive strength, or to reduce the leachability of the hazardous constituents.[5]	Leachability of the hazardous contaminants must be reduced.	None.
3. Sealing: Application of an appropriate material which adheres tightly to the debris surface to avoid exposure of the surface to potential leaching media. When necessary to effectively seal the surface, sealing entails pretreatment of the debris surface to remove foreign matter and to clean and roughen the surface. Sealing materials include epoxy, silicone, and urethane compounds, but paint may not be used as a sealant	Sealing must avoid exposure of the debris surface to potential leaching media and sealant must be resistent to degradation by the debris and its contaminants and materials into which it may come into contact after placement (leachate, other waste, microbes).	None.

[1]Hazardous debris must be treated by either these standards or the waste-specific treatment standards for the waste contaminating the debris. The treatment standards must be met for each type of debris contained in a mixture of debris types, unless the debris is converted into treatment residue as a result of the treatment process. Debris treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris.
[2]Contaminant restriction means that the technology is not BDAT for that contaminant. If debris containing a restricted contaminant is treated by the technology, the contaminant must be subsequently treated by a technology for which it is not restricted in order to be land disposed (and excluded from Subtitle C regulation).
[3]"Clean debris surface" means the surface, when viewed without magnification, shall be free of all visible contaminated soil and hazardous waste except that residual staining from soil and waste consisting of light shadows, slight streaks, or minor discolorations, and soil and waste in cracks, crevices, and pits may be present provided that such staining and waste and soil in cracks, crevices, and pits shall be limited to no more than 5% of each square inch of surface area.
[4]Acids, solvents, and chemical reagents may react with some debris and contaminants to form hazardous compounds. For example, acid washing of cyanide-contaminated debris could result in the formation of hydrogen cyanide. Some acids may also react violently with some debris and contaminants, depending on the concentration of the acid and the type of debris and contaminants. Debris treaters should refer to the safety precautions specified in Material Safety Data Sheets for various acids to avoid applying an incompatible acid to a particular debris/contaminant combination. For example, concentrated sulfuric acid may react violently with certain organic compounds, such as acrylonitrile.
[5]If reducing the particle size of debris to meet the treatment standards results in material that no longer meets the 60 mm minimum particle size limit for debris, such material is subject to the waste-specific treatment standards for the waste contaminating the material, unless the debris has been cleaned and separated from contaminated soil and waste prior to size reduction. At a minimum, simple physical or mechanical means must be used to provide such cleaning and separation of nondebris materials to ensure that the debris surface is free of caked soil, waste, or other nondebris material.
[6]Dioxin-listed wastes are EPA Hazardous Waste numbers FO20, FO21, FO22, FO23, FO26, and FO27.
[7]Thermal desorption is distinguished from Thermal Destruction in that the primary purpose of Thermal Desorption is to volatilize contaminants and to remove them from the treatment chamber for subsequent destruction or other treatment.
[8]The demonstration "Equivalent Technology" under 268.42(b) must document that the technology treats contaminants subject to treatment to a level equivalent to that required by the performance and design and operating standards for other technologies in this table such that residual levels of hazardous contaminants will not pose a hazard to human health and the environment absent management controls.
[9]Any soil, waste, and other nondebris material that remains on the debris surface (or remains mixed with the debris) after treatment is considered a treatment residual that must be separated from the debris using, at a minimum, simple physical or mechanical means. Examples of simple physical or mechanical means are vibratory or trommel screening or water washing. The debris surface need not be cleaned to a "clean debris surface" as defined in note 3 when separating treated debris from residue; rather, the surface must be free of caked soil, waste, or other nondebris material. Treatment residuals are subject to the waste-specific treatment standards for the waste contaminating the debris

268.46 Alternative treatment standards based on HTMR

For the treatment standards previously found in this section, refer to 268.40. (12/93, 5/96)

268.47 [Reserved]

268.48 Universal Treatment Standards

(5/96, 9/98)

(a) Table UTS identifies the hazardous constituents, along with the nonwastewater and wastewater treatment standard levels, that are used to regulate most prohibited hazardous wastes with numerical limits. For determining compliance with treatment standards for

underlying hazardous constituents as defined in 268.2(i), these treatment standards may not be exceeded. Compliance with these treatment standards is measured by an analysis of grab samples, unless otherwise noted in the following Table UTS

268.48 - UNIVERSAL TREATMENT STANDARDS	NOTE: NA means not applicable		(8/00, 2/07)
REGULATED CONSTITUENT Common Name	CAS[1] Number	Wastewater Standard	Nonwastewater Standard
		Concentration[2] in mg/l	Concentration[3] in mg/kg unless noted as "mg/l TCLP"
Organic Constituents			
Acenaphthylene	208-96-8	0.059	3.4
Acenaphthene	83-32-9	0.059	3.4
Acetone	67-64-1	0.28	160
Acetonitrile	75-05-8	5.6	38
Acetophenone	96-86-2	0.010	9.7
2-Acetylaminofluorene	53-96-3	0.059	140
Acrolein	107-02-8	0.29	NA
Acrylamide	79-06-1	19	23
Acrylonitrile	107-13-1	0.24	84
Aldicarb sulfone	1646-88-4	0.056	0.28
Aldrin	309-00-2	0.021	0.066
4-Aminobiphenyl	92-67-1	0.13	NA
Aniline	62-53-3	0.81	14
o-Anisidine (2-methoxyaniline)	90-04-0	0.010	0.66
Anthracene	120-12-7	0.059	3.4
Aramite	140-57-8	0.36	NA
alpha-BHC	319-84-6	0.00014	0.066
beta-BHC	319-85-7	0.00014	0.066
delta-BHC	319-86-8	0.023	0.066
gamma-BHC	58-89-9	0.0017	0.066
Barban	101-27-9	0.056	1.4
Bendiocarb	22781-23-3	0.056	1.4
Benomyl	17804-35-2	0.056	1.4
Benzene	71-43-2	0.14	10
Benz(a)anthracene	56-55-3	0.059	3.4
Benzal chloride	98-87-3	0.055	6.0
Benzo(b)fluoranthene (difficult to distinguish from benzo(k)fluoranthene)	205-99-2	0.11	6.8
Benzo(k)fluoranthene (difficult to distinguish from benzo(b)fluoranthene)	207-08-9	0.11	6.8
Benzo(g,h,i)perylene	191-24-2	0.0055	1.8
Benzo(a)pyrene	50-32-8	0.061	3.4
Bromodichloromethane	75-27-4	0.35	15
Bromomethane/Methyl bromide	74-83-9	0.11	15
4-Bromophenyl phenyl ether	101-55-3	0.055	15
n-Butyl alcohol	71-36-3	5.6	2.6
Butylate	2008-41-5	0.042	1.4
Butyl benzyl phthalate	85-68-7	0.017	28
2-sec-Butyl-4,6-dinitrophenol/Dinoseb	88-85-7	0.066	2.5
Carbaryl	63-25-2	0.006	0.14
Carbenzadim	10605-21-7	0.056	1.4
Carbofuran	1563-66-2	0.006	0.14
Carbofuran phenol	1563-38-8	0.056	1.4
Carbon disulfide	75-15-0	3.8	4.8 mg/l TCLP
Carbon tetrachloride	56-23-5	0.057	6.0
Carbosulfan	55285-14-8	0.028	1.4
Chlordane (alpha and gamma isomers)	57-74-9	0.0033	0.26
p-Chloroaniline	106-47-8	0.46	16
Chlorobenzene	108-90-7	0.057	6.0
Chlorobenzilate	510-15-6	0.10	NA
2-Chloro-1,3-butadiene	126-99-8	0.057	0.28
Chlorodibromomethane	124-48-1	0.057	15
Chloroethane	75-00-3	0.27	6.0
bis(2-Chloroethoxy)methane	111-91-1	0.036	7.2
bis(2-Chloroethyl)ether	111-44-4	0.033	6.0
Chloroform	67-66-3	0.046	6.0
bis(2-Chloroisopropyl)ether	39638-32-9	0.055	7.2
p-Chloro-m-cresol	59-50-7	0.018	14
2-Chloroethyl vinyl ether	110-75-8	0.062	NA
Chloromethane/Methyl chloride	74-87-3	0.19	30
2-Chloronaphthalene	91-58-7	0.055	5.6
2-Chlorophenol	95-57-8	0.044	5.7
3-Chloropropylene	107-05-1	0.036	30
Chrysene	218-01-9	0.059	3.4
p-Cresidine	120-71-8	0.010	0.66
o-Cresol	95-48-7	0.11	5.6

268.48 - UNIVERSAL TREATMENT STANDARDS	NOTE: NA means not applicable (8/00, 2/07)		
REGULATED CONSTITUENT Common Name	CAS[1] Number	Wastewater Standard	Nonwastewater Standard
m-Cresol (difficult to distinguish from p-cresol)	108-39-4	0.77	5.6
p-Cresol (difficult to distinguish from m-cresol)	106-44-5	0.77	5.6
m-Cumenyl methylcarbamate	64-00-6	0.056	1.4
Cyclohexanone	108-94-1	0.36	0.75 mg/l TCLP
o,p'-DDD	53-19-0	0.023	0.087
p,p'-DDD	72-54-8	0.023	0.087
o,p'-DDE	3424-82-6	0.031	0.087
p,p'-DDE	72-55-9	0.031	0.087
o,p'-DDT	789-02-6	0.0039	0.087
p,p'-DDT	50-29-3	0.0039	0.087
Dibenz(a,h)anthracene	53-70-3	0.055	8.2
Dibenz(a,e)pyrene	192-65-4	0.061	NA
1,2-Dibromo-3-chloropropane	96-12-8	0.11	15
1,2-Dibromoethane/Ethylene dibromide	106-93-4	0.028	15
Dibromomethane	74-95-3	0.11	15
m-Dichlorobenzene	541-73-1	0.036	6.0
o-Dichlorobenzene	95-50-1	0.088	6.0
p-Dichlorobenzene	106-46-7	0.090	6.0
Dichlorodifluoromethane	75-71-8	0.23	7.2
1,1-Dichloroethane	75-34-3	0.059	6.0
1,2-Dichloroethane	107-06-2	0.21	6.0
1,1-Dichloroethylene	75-35-4	0.025	6.0
trans-1,2-Dichloroethylene	156-60-5	0.054	30
2,4-Dichlorophenol	120-83-2	0.044	14
2,6-Dichlorophenol	87-65-0	0.044	14
2,4-Dichlorophenoxyacetic acid/2,4-D	94-75-7	0.72	10
1,2-Dichloropropane	78-87-5	0.85	18
cis-1,3-Dichloropropylene	10061-01-5	0.036	18
trans-1,3-Dichloropropylene	10061-02-6	0.036	18
Dieldrin	60-57-1	0.017	0.13
Diethyl phthalate	84-66-2	0.20	28
p-Dimethylaminoazobenzene	60-11-7	0.13	NA
2,4-Dimethylaniline (2,4-xylidine)	95-68-1	0.010	0.66
2-4-Dimethyl phenol	105-67-9	0.036	14
Dimethyl phthalate	131-11-3	0.047	28
Dimetilan	644-64-4	0.056	1.4
Di-n-butyl phthalate	84-74-2	0.057	28
1,4-Dinitrobenzene	100-25-4	0.32	2.3
4,6-Dinitro-o-cresol	534-52-1	0.28	160
2,4-Dinitrophenol	51-28-5	0.12	160
2,4-Dinitrotoluene	121-14-2	0.32	140
2,6-Dinitrotoluene	606-20-2	0.55	28
Di-n-octyl phthalate	117-84-0	0.017	28
Di-n-propylnitrosamine	621-64-7	0.40	14
1,4-Dioxane	123-91-1	12.0	170
Diphenylamine (difficult to distinguish from diphenylnitrosamine)	122-39-4	0.92	13
Diphenylnitrosamine (difficult to distinguish from diphenylamine)	86-30-6	0.92	13
1,2-Diphenylhydrazine	122-66-7	0.087	NA
Disulfoton	298-04-4	0.017	6.2
Dithiocarbamates (total)	NA	0.028	28
Endosulfan I	959-98-8	0.023	0.066
Endosulfan II	33213-65-9	0.029	0.13
Endosulfan sulfate	1031-07-8	0.029	0.13
Endrin	72-20-8	0.0028	0.13
Endrin aldehyde	7421-93-4	0.025	0.13
EPTC	759-94-4	0.042	1.4
Ethyl acetate	141-78-6	0.34	33
Ethyl benzene	100-41-4	0.057	10
Ethyl cyanide/Propanenitrile	107-12-0	0.24	360
Ethyl ether	60-29-7	0.12	160
bis(2-Ethylhexyl) phthalate	117-81-7	0.28	28
Ethyl methacrylate	97-63-2	0.14	160
Ethylene oxide	75-21-8	0.12	NA
Famphur	52-85-7	0.017	15
Fluoranthene	206-44-0	0.068	3.4
Fluorene	86-73-7	0.059	3.4
Formetanate hydrochloride	23422-53-9	0.056	1.4
Heptachlor	76-44-8	0.0012	0.066
Heptachlor epoxide	1024-57-3	0.016	0.066
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin(1,2,3,4,6,7,8-HpCDD) (6/02)	35822-46-9	0.000035	0.0025
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF) (6/02)	67562-39-4	0.000035	0.0025
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF) (6/02)	55673-89-7	0.000035	0.0025

268.48 - UNIVERSAL TREATMENT STANDARDS	NOTE: NA means not applicable (8/00, 2/07)		
REGULATED CONSTITUENT Common Name	CAS[1] Number	Wastewater Standard	Nonwastewater Standard
Hexachlorobenzene	118-74-1	0.055	10
Hexachlorobutadiene	87-68-3	0.055	5.6
Hexachlorocyclopentadiene	77-47-4	0.057	2.4
HxCDDs (All Hexachlorodibenzo-p-dioxins)	NA	0.000063	0.001
HxCDFs (All Hexachlorodibenzofurans)	NA	0.000063	0.001
Hexachloroethane	67-72-1	0.055	30
Hexachloropropylene	1888-71-7	0.035	30
Indeno (1,2,3-c,d) pyrene	193-39-5	0.0055	3.4
Iodomethane	74-88-4	0.19	65
Isobutyl alcohol	78-83-1	5.6	170
Isodrin	465-73-6	0.021	0.066
Isosafrole	120-58-1	0.081	2.6
Kepone	143-50-0	0.0011	0.13
Methacrylonitrile	126-98-7	0.24	84
Methanol	67-56-1	5.6	0.75 mg/l TCLP
Methapyrilene	91-80-5	0.081	1.5
Methiocarb	2032-65-7	0.056	1.4
Methomyl	16752-77-5	0.028	0.14
Methoxychlor	72-43-5	0.25	0.18
3-Methylcholanthrene	56-49-5	0.0055	15
4,4-Methylene bis(2-chloroaniline)	101-14-4	0.50	30
Methylene chloride	75-09-2	0.089	30
Methyl ethyl ketone	78-93-3	0.28	36
Methyl isobutyl ketone	108-10-1	0.14	33
Methyl methacrylate	80-62-6	0.14	160
Methyl methansulfonate	66-27-3	0.018	NA
Methyl parathion	298-00-0	0.014	4.6
Metolcarb	1129-41-5	0.056	1.4
Mexacarbate	315-18-4	0.056	1.4
Molinate	2212-67-1	0.042	1.4
Naphthalene	91-20-3	0.059	5.6
2-Naphthylamine	91-59-8	0.52	NA
o-Nitroaniline	88-74-4	0.27	14
p-Nitroaniline	100-01-6	0.028	28
Nitrobenzene	98-95-3	0.068	14
5-Nitro-o-toluidine	99-55-8	0.32	28
o-Nitrophenol	88-75-5	0.028	13
p-Nitrophenol	100-02-7	0.12	29
N-Nitrosodiethylamine	55-18-5	0.40	28
N-Nitrosodimethylamine	62-75-9	0.40	2.3
N-Nitroso-di-n-butylamine	924-16-3	0.40	17
N-Nitrosomethylethylamine	10595-95-6	0.40	2.3
N-Nitrosomorpholine	59-89-2	0.40	2.3
N-Nitrosopiperidine	100-75-4	0.013	35
N-Nitrosopyrrolidine	930-55-2	0.013	35
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD) (6/02)	3268-87-9	0.000063	0.005
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF) (6/02)	39001-02-0	0.000063	0.005
Oxamyl	23135-22-0	0.056	0.28
Parathion	56-38-2	0.014	4.6
Total PCBs (sum of all PCB isomers, or all Aroclors)[8]	1336-36-3	0.10	10
Pebulate	1114-71-2	0.042	1.4
Pentachlorobenzene	608-93-5	0.055	10
PeCDDs (All Pentachlorodibenzo-p-dioxins)	NA	0.000063	0.001
PeCDFs (All Pentachlorodibenzofurans)	NA	0.000035	0.001
Pentachloroethane	76-01-7	0.055	6.0
Pentachloronitrobenzene	82-68-8	0.055	4.8
Pentachlorophenol	87-86-5	0.089	7.4
Phenacetin	62-44-2	0.081	16
Phenanthrene	85-01-8	0.059	5.6
Phenol	108-95-2	0.039	6.2
1,3-Phenylenediamine	108-45-2	0.010	0.66
o-Phenylenediamine	95-54-5	0.056	5.6
Phorate	298-02-2	0.021	4.6
Phthalic acid	100-21-0	0.055	28
Phthalic anhydride	85-44-9	0.055	28
Physostigmine	57-47-6	0.056	1.4
Physostigmine salicylate	57-64-7	0.056	1.4
Promecarb	2631-37-0	0.056	1.4
Pronamide	23950-58-5	0.093	1.5
Propham	122-42-9	0.056	1.4
Propoxur	114-26-1	0.056	1.4
Prosulfocarb	52888-80-9	0.042	1.4

268.48 - UNIVERSAL TREATMENT STANDARDS	NOTE: NA means not applicable		(8/00, 2/07)
REGULATED CONSTITUENT Common Name	CAS[1] Number	Wastewater Standard	Nonwastewater Standard
Pyrene	129-00-0	0.067	8.2
Pyridine	110-86-1	0.014	16
Safrole	94-59-7	0.081	22
Silvex/2,4,5-TP	93-72-1	0.72	7.9
1,2,4,5-Tetrachlorobenzene	95-94-3	0.055	14
TCDDs (All Tetrachlorodibenzo-p-dioxins)	NA	0.000063	0.001
TCDFs (All Tetrachlorodibenzofurans)	NA	0.000063	0.001
1,1,1,2-Tetrachloroethane	630-20-6	0.057	6.0
1,1,2,2-Tetrachloroethane	79-34-5	0.057	6.0
Tetrachloroethylene	127-18-4	0.056	6.0
2,3,4,6-Tetrachlorophenol	58-90-2	0.030	7.4
Thiodicarb	59669-26-0	0.019	1.4
Thiophanate-methyl	23564-05-8	0.056	1.4
Toluene	108-88-3	0.080	10
Toxaphene	8001-35-2	0.0095	2.6
Triallate	2303-17-5	0.042	1.4
Tribromomethane/Bromoform	75-25-2	0.63	15
1,2,4-Trichlorobenzene	120-82-1	0.055	19
1,1,1-Trichloroethane	71-55-6	0.054	6.0
1,1,2-Trichloroethane	79-00-5	0.054	6.0
Trichloroethylene	79-01-6	0.054	6.0
Trichloromonofluoromethane	75-69-4	0.020	30
2,4,5-Trichlorophenol	95-95-4	0.18	7.4
2,4,6-Trichlorophenol	88-06-2	0.035	7.4
2,4,5-Trichlorophenoxyacetic acid/2,4,5-T	93-76-5	0.72	7.9
1,2,3-Trichloropropane	96-18-4	0.85	30
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.057	30
Triethylamine	101-44-8	0.081	1.5
tris-(2,3-Dibromopropyl) phosphate	126-72-7	0.11	0.10
Vernolate	1929-77-7	0.042	1.4
Vinyl chloride	75-01-4	0.27	6.0
Xylenes-mixed isomers (sum of o-, m-, and p-xylene concentrations)	1330-20-7	0.32	30
Inorganic Constituents			
Antimony	7440-36-0	1.9	1.15 mg/l TCLP
Arsenic	7440-38-2	1.4	5.0 mg/l TCLP
Barium	7440-39-3	1.2	21 mg/l TCLP
Beryllium	7440-41-7	0.82	1.22 mg/l TCLP
Cadmium	7440-43-9	0.69	0.11 mg/l TCLP
Chromium (Total)	7440-47-3	2.77	0.60 mg/l TCLP
Cyanides (Total)[4]	57-12-5	1.2	590
Cyanides (Amenable)[4]	57-12-5	0.86	30
Fluoride[5]	16984-48-8	35	NA
Lead	7439-92-1	0.69	0.75 mg/l TCLP
Mercury - Nonwastewater from Retort	7439-97-6	NA	0.20 mg/l TCLP
Mercury - All Others	7439-97-6	0.15	0.025 mg/lTCLP
Nickel	7440-02-0	3.98	11. mg/l TCLP
Selenium[7]	7782-49-2	0.82	5.7 mg/l TCLP
Silver	7440-22-4	0.43	0.14 mg/l TCLP
Sulfide[5]	18496-25-8	14	NA
Thallium	7440-28-0	1.4	0.20 mg/l TCLP
Vanadium[5]	7440-62-2	4.3	1.6 mg/l TCLP
Zinc[5]	7440-66-6	2.61	4.3 mg/l TCLP

FOOTNOTES TO TABLE UTS - * Note: N/A means "not applicable."

1 CAS means Chemical Abstract Services. When the waste code and/or regulated constituents are described as a combination of a chemical with it's salts and/or esters, the CAS number is given for the parent compound only.

2 Concentration standards for wastewaters are expressed in mg/l and are based on analysis of composite samples.

3 Except for Metals (EP or TCLP) and Cyanides (Total and Amenable) the nonwastewater treatment standards expressed as a concentration were established, in part, based upon incineration in units operated in accordance with the technical requirements of part 264, subpart O or part 265, subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may comply with these treatment standards according to provisions in 268.40(d). All concentration standards for nonwastewaters are based on analysis of grab samples.

4 Both Cyanides (Total) and Cyanides (Amenable) for nonwastewaters are to be analyzed using Method 9010 or 9012, found in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,@ EPA Publication SW-846, as incorporated by reference in 260.11, with a sample size of 10 grams and a distillation time of one hour and 15 minutes.

5 These constituents are not "underlying hazardous constituents" in characteristic wastes, according to the definition at 268.2(i).

6 [Reserved 8/00]

7 This constituent is not an underlying hazardous constituent as defined at 268.2(i) of this part because its UTS level is greater than its TC level, thus a treated selenium waste would always be characteristically hazardous, unless it is treated to below its characteristic level.

8 This standard is temporarily deferred for soil exhibiting a hazardous characteristic due to D004-D011 only.

268.49 Alternative LDR treatment standards for contaminated soil

(11/99)

(a) Applicability. You must comply with LDRs prior to placing soil that exhibits a characteristic of hazardous waste, or exhibited a characteristic of hazardous waste at the time it was generated, into a land disposal unit. The following chart describes whether you must comply with LDRs prior to placing soil contaminated by listed hazardous waste into a land disposal unit.

If LDRs...	And If LDRs...	And If ...	Then You...
applied to the listed waste when it contaminated the soil*	apply to the listed waste now		must comply with LDRs
didn=t apply to the listed waste when it contaminated the soil*	apply to the listed waste now	the soil is determined to contain the listed waste when the soil is first generated	must comply with LDRs
didn=t apply to the listed waste when it contaminated the soil*	apply to the listed waste now	the soil is determined not to contain the listed waste when the soil is first generated	needn=t comply with LDRs
didn=t apply to the listed waste when it contaminated the soil*	don=t apply to the listed waste now		needn=t comply with LDRs
* For dates of LDR applicability, see Part 268 Appendix VII. To determine the date any given listed hazardous waste contaminated any given volume of soil, use the last date any given listed hazardous waste was placed into any given land disposal unit or, in the case of an accidental spill, the date of the spill.			

(b) Prior to land disposal, contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to the applicable treatment standards specified in paragraph (c) of this section or according to the Universal Treatment Standards specified in 268.48 applicable to the contaminating listed hazardous waste and/or the applicable characteristic of hazardous waste if the soil is characteristic. The treatment standards specified in paragraph (c) of this section and the Universal Treatment Standards may be modified through a treatment variance approved in accordance with 268.44.

(c) Treatment standards for contaminated soils. Prior to land disposal, contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be treated according to all the standards specified in this paragraph or according to the Universal Treatment Standards specified in 268.48.

(1) All soils. Prior to land disposal, all constituents subject to treatment must be treated as follows:

(A) For non-metals except carbon disulfide, cyclohexanone, and methanol, treatment must achieve 90 percent reduction in total constituent concentrations, except as provided by paragraph (c)(1)(C) of this section. (9/01)

(B) For metals and carbon disulfide, cyclohexanone, and methanol treatment must achieve 90 percent reduction in constituent concentrations as measured in leachate from the treated media (tested according to the TCLP) or 90 percent reduction in total constituent concentrations (when a metal removal treatment technology is used), except as provided by paragraph (c)(1)(C) of this section. (9/01)

(C) When treatment of any constituent subject to treatment to a 90 percent reduction standard would result in a concentration less than 10 times the Universal Treatment Standard for that constituent, treatment to achieve constituent concentrations less than 10 times the universal treatment standard is not required. Universal Treatment Standards are identified in 268.48 Table UTS.

(2) Soils that exhibit the characteristic of ignitability, corrosivity or reactivity. In addition to the treatment required by paragraph (c)(1) of this section, prior to land disposal, soils that exhibit the characteristic of ignitability, corrosivity, or reactivity must be treated to eliminate these characteristics.

(3) Soils that contain nonanalyzable constituents. In addition to the treatment requirements of paragraphs (c)(1) and (2) of this section, prior to land disposal, the following treatment is required for soils that contain nonanalyzable constituents:

(A) For soil that contains only analyzable and nonanalyzable organic constituents, treatment of the analyzable organic constituents to the levels specified in paragraphs (c)(1) and (2) of this section; or, (8/00)

(B) For soil that contains only nonanalyzable constituents, treatment by the method specified in 268.42 for the waste contained in the soil. (8/00)

(d) Constituents subject to treatment. When applying the soil treatment standards in paragraph (c) of this section, constituents subject to treatment are any constituents listed in 268.48, Table UTS - Universal Treatment Standards that are reasonably expected to be present in any given volume of contaminated soil, except fluoride, selenium, sulfides, vanadium and zinc, and are present at concentrations greater than ten times the universal treatment standard. PCBs are not constituent subject to treatment in any given volume of soil which exhibits the toxicity characteristic solely because of the presence of metals. (6/02)

(e) Management of treatment residuals. Treatment residuals from treating contaminated soil identified by paragraph (a) of this section as needing to comply with LDRs must be managed as follows:

(1) Soil residuals are subject to the treatment standards of this section;

(2) Non-soil residuals are subject to:

(A) For soils contaminated by listed hazardous waste, the RCRA Subtitle C standards applicable to the listed hazardous waste; and

(B) For soils that exhibit a characteristic of hazardous waste, if the non-soil residual also exhibits a characteristic of hazardous waste, the treatment standards applicable to the characteristic hazardous waste.

Subpart E - PROHIBITIONS ON STORAGE

268.50 Prohibitions on storage of restricted wastes

(a) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under subpart C of this part of RCRA section 3004 is prohibited, unless the following conditions are met: (11/90)

(1) A generator stores such wastes in tanks, containers, or containment buildings onsite solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in R.61-79.262.34 and parts 264 and 265 of this chapter. (11/90; 12/92; 12/93)

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks, containers, or containment buildings solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and: (11/90; 12/92; 12/93)

(i) Each container is clearly marked to identify its contents and the date each period of accumulation begins (12/92);

(ii) Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator must comply with the operating record requirements specified in 264.73 or 265.73. (12/92)

(3) A transporter stores manifested shipments of such wastes at a transfer facility for 10 days or less. (11/90)

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Department can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal. (12/92)

(c) An owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(d) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste (for example, because of an approved case-by-case extension under 268.5, an approved 268.6 petition, or a national capacity variance under subpart C), the prohibition in paragraph (a) of this section does not apply during the period of such exemption. (11/90)

(e) The prohibition in paragraph (a) of this section does not apply to hazardous wastes that meet the treatment standards specified under sections 268.41, 268.42, and 268.43 or the treatment standards specified under the variance in section 268.44, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in 268.32 or RCRA section 3004. (11/90)

(f) Liquid hazardous wastes containing polychlorinated biphenyls (PCB's) at concentrations greater than or equal to 50 ppm must be stored at a facility that meets the requirements of 40 CFR 761.65(b) and must be removed from storage and treated or disposed as required by this part within one year of the date when such wastes are first placed into storage. The provisions of paragraph (c) of this section do not apply to such PCB wastes prohibited under 268.32 of this part. (11/90)

(g) The prohibition and requirements in this section do not apply to hazardous remediation wastes stored in a staging pile approved pursuant to 264.554 of this chapter. (8/00)

Appendix I - Toxicity Characteristic Leaching Procedure [Reserved 9/98]

Note: The TCLP (Method 1311) is published in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in R.61-79.260.11.

Appendix II - [Reserved 9/98]

Appendix III - List of Halogenated Organic Compounds Regulated Under 268.32

In determining the concentration of HOCs in a hazardous waste for purposes of the 268.32 land disposal prohibition, EPA has defined the HOCs that must be included in a calculation as any compounds having a carbon-halogen bond which are listed in this Appendix (see 268.2). 268 Appendix III consists of the following compounds: (6/02)

I. Volatiles
1. Bromodichloromethane
2. Bromomethane
3. Carbon Tetrachloride
4. Chlorobenzene
5. 2-Chloro-1,-butadiene
6. Chlorodibromomethane
7. Chloroethane
8. 2-Chloroethyl vinyl ether
9. Chloroform
10. Chloromethane
11. 3-Chloropropene
12. 1,2-Dibromo-3-chloropropane
13. 1,2-Dibromomethane
14. Dibromomethane
15. Trans-1,4-Dichloro-2Cbutene
16. Dichlorodifluoromethane
17. 1,1-Dichloroethane
18. 1,2-Dichloroethane
19. 1,1-Dichloroethylene
20. Trans-1,2-Dichloroethene
21. 1,2-Dichloropropane
22. Trans-1,3-Dichloropropene
23. cis-1,3-Dichloropropene
24. Iodomethane
25. Methylene chloride
26. 1,1,1,2-Tetrachloroethane
27. 1,1,2,2-Tetrachloroethane
28. Tetrachloroethene
29. Tribromomethane
30. 1,1,1-Trichloroethane
31. 1,1,2-Trichloroethane
32. Trichlorothene
33. Trichloromonofluoromethane
34. 1,2,3-Thrichloropropane
35. Vinyl Chloride

II. Semivolatiles
1. Bis(2-chloroethoxy)ethane
2. Bis(2-chloroethyl)ether
3. Bis(2-chloroisopropyl)ether
4. p-Chloroaniline
5. Chlorobenzilate
6. p-Chloro-m-cresol
7. 2-Chloronaphthalene
8. 2-Chlorphenol
9. 3-Chloropropionitrile
10. m-Dichlorobenzene
11. o-Dichlorobenzene
12. p-Dichlorobenzene
13. 3.3'-Dichlorobenzidine
14. 2,4-Dichlorophenol
15. 2,6-Dichlorophenol
16. Hexachlorobenzene
17. Hexachlorobutadiene
18. Hexachlorocyclopentadiene
19. Hexachloroethane
20. Hexachloroprophene
21. Hexachlorpropene
22. 4,4'-Methylenebis(2-chloroanaline)
23. Pentachlorobenzene
24. Pentachloroethane
25. Pentachloronitrobenzene
26. Pentachlorophenol
27. Pronamide
28. 1,2,4,5-Tetrachlorobenzene
29. 2,3,4,6-Tetrachlorophenol
30. 1,2,4-Trichlorobenzene
31. 2,4,5-Trichlorophenol
32. 2,4,6-Trichlorophenol
33. Tris(2,3-dibromopropyl)phosphate

III. Organochlorine Pesticides
1. Aldrin
2. alpha-BHC
3. beta-BHC
4. delta-BHC
5. gamma-BHC
6. Chlorodane
7. DDD
8. DDE
9. DDT
10. Dieldrin
11. Endosulfan I
12. Endosulfan II
13. Endrin
14. Endrin aldehyde
15. Heptachlor
16. Heptachlor epoxide
17. Isodrin
18. Kepone
19. Methoxyclor
20. Toxaphene

IV. Phenoxyacetic Acid Herbicides
1. 2,4-Dichlorophenoxyacetic acid
2. Silvex
3. 2,4,5-T

V. PCBs
1. Aroclor 1016
2. Aroclor 1221
3. Aroclor 1232
4. Aroclor 1242
5. Aroclor 1248
6. Aroclor 1254
7. Aroclor 1260
8. PCBs not otherwise specified

VI. Dioxins and Furans
1. Hexachlorodibenzo-p-dioxins
2. Hexachlorodibenzofuran
3. Pentachlorodibenzo-p-dioxins
4. Pentachlorodibenzofuran
5. Tetrachlorodibenzo-p-dioxins
6. Tetrachlorodibenzofuran
7. 2,3,7,8-Tetrachlorodibenzo-p-dioxin

Appendix IV - Wastes Excluded From Lab Packs Under the Alternative Treatment Standards of 268.42(c)

(5/96)

Hazardous waste with the following EPA Hazardous Waste Codes may not be placed in lab packs under the alternative lab pack treatment standards of 268.42(c): D009, F019, K003, K004, K005, K006, K062, K071, K100, K106, P010, P011, P012, P076, P078, U134, U151.

Appendix V - [Reserved 5/96]

Appendix VI - Recommended Technologies to Achieve Deactivation of Characteristics in 268.42

The treatment standard for many characteristic wastes is stated in the 268.40 Table of Treatment Standards as "Deactivation and meet UTS." EPA has determined that many technologies, when used alone or in combination, can achieve the deactivation portion of the treatment standard. Characteristic wastes that are not managed in a facility regulated by the Clean Water Act (CWA) or in a CWA-equivalent facility, and that also contain underlying hazardous constituents (see 268.2(i)) must be treated not only by a "deactivating" technology to remove the characteristic, but also to achieve the universal treatment standards (UTS) for underlying hazardous constituents. The following appendix presents a partial list of technologies, utilizing the five letter technology codes established in 268.42 Table 1, that may be useful in meeting the treatment standard. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, and/or the use of other pretreatment technologies, provided deactivation is achieved and underlying hazardous constituents are treated to achieve the UTS.

(9/98)Waste code/subcategory

Note: "n.a." stands for "not applicable"; "fb." stands for "followed by".

Waste code/subcategory	Nonwaste-waters	Wastewaters
D001 Ignitable Liquids based on 261.21(a)(1) -- Low TOC Nonwastewater Subcategory (containing 1% to <10% TOC)	RORGS INCIN WETOX CHOXD BIODG	n.a.
D001 Ignitable Liquids based on 261.21(a)(1) -- Ignitable Wastewater Subcategory (containing <1% TOC)	n.a.	RORGS INCIN WETOX CHOXD BIODG
D001 Compressed Gases based on 261.21(A)(3)	RCGAS INCIN FSUBS ADGAS fb. INCIN ADGAS fb. (CHOXD; or CHRED)	n.a.
D001 Ignitable Reactives based on 261.21(a)(2)	WTRRX CHOXD CHRED STABL INCIN	n.a.
D001 Ignitable Oxidizers based on 261.21(a)(4)	CHRED INCIN	CHRED INCIN
D002 Acid Subcategory based on 261.22(a)(1) with pH less than or equal to 2	RCORR NEUTR INCIN	NEUTR INCIN
D002 Alkaline Subcategory based on 261.22(a)(1) with pH greater than or equal to 12.5	NEUTR INCIN	NEUTR INCIN
D002 Other Corrosives based on 261.22(a)(2)	CHOXD CHRED INCIN STABL	CHOXD CHRED INCIN
D003 Water Reactives based on 261.23(a) (2), (3), and (4)	INCIN WTRRX CHOXD CHRED	n.a.
D003 Reactive Sulfides based on 261.23(a)(5)	CHOXD CHRED INCIN STABL	CHOXD CHRED BIODG INCIN
D003 Explosives based on 261.23(a) (6), (7), and (8)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
D003 Other Reactives based on 261.23(a)(1)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
K044 Wastewater treatment sludges from the manufacturing and processing of explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K045 Spent carbon from the treatment of wastewaters containing explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K047 Pink/red water from TNT operations	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN

Appendix VII - LDR Effective Dates of Surface Disposed Prohibited Hazardous Wastes

Table 1. Effective Dates of Surface Disposed Wastes (Non-Soil and Debris) Regulated in the LDRs[a] Comprehensive List

Waste code	Waste category	Effective date
D001[c]	All (except High TOC Ignitable Liquids)	Aug. 9, 1993.
D001	High TOC Ignitable Liquids	Aug. 8, 1990.
D002[c]	All	Aug. 9, 1993.
D003[e]	All	July 8, 1996.
D004	Nonwastewater	May 8, 1992.
D004	Wastewater	Aug. 8, 1992.
D005	All	Aug. 8, 1990.
D006	All	Aug. 8, 1990.
D007	All	Aug. 8, 1990.
D008	Lead materials before secondary smelting	May 8, 1992.
D008	All others	Aug. 8, 1990.
D009	Nonwastewater	May 8, 1992.
D009	All others	Aug. 8, 1990.
D010	All	Aug. 8, 1990.
D011	All	Aug. 8, 1990.
D012 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D013 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D014 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D015 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D016 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D017 (that exhibit the toxicity characteristic based on the TCLP)[d]	All	Dec. 14, 1994.
D018	Mixed with radioactive wastes	Sept. 19, 1996.
D018	All others	Dec. 19, 1994.
D019	Mixed with radioactive wastes	Sept. 19, 1996.
D019	All others	Dec. 19, 1994.
D020	Mixed with radioactive wastes	Sept. 19, 1996.
D020	All others	Dec. 19, 1994.
D021	Mixed with radioactive wastes	Sept. 19, 1996.
D021	All others	Dec. 19, 1994.
D022	Mixed with radioactive wastes	Sept. 19, 1996.
D022	All others	Dec. 19, 1994.

Waste code	Waste category	Effective date
D023	Mixed with radioactive wastes	Sept. 19, 1996.
D023	All others	Dec. 19, 1994.
D024	Mixed with radioactive wastes	Sept. 19, 1996.
D024	All others	Dec. 19, 1994.
D025	Mixed with radioactive wastes	Sept. 19, 1996.
D025	All others	Dec. 19, 1994.
D026	Mixed with radioactive wastes	Sept. 19, 1996.
D026	All others	Dec. 19, 1994.
D027	Mixed with radioactive wastes	Sept. 19, 1996.
D027	All others	Dec. 19, 1994.
D028	Mixed with radioactive wastes	Sept. 19, 1996.
D028	All others	Dec. 19, 1994.
D029	Mixed with radioactive wastes	Sept. 19, 1996.
D029	All others	Dec. 19, 1994.
D030	Mixed with radioactive wastes	Sept. 19. 1996.
D030	All others	Dec. 19, 1994.
D031	Mixed with radioactive wastes	Sept. 19, 1996.
D031	All others	Dec. 19, 1994.
D032	Mixed with radioactive wastes	Sept. 19, 1996.
D032	All others	Dec. 19, 1994.
D033	Mixed with radioactive wastes	Sept. 19, 1996.
D033	All others	Dec. 19, 1994.
D034	Mixed with radioactive wastes	Sept. 19, 1996.
D034	All others	Dec. 19, 1994.
D035	Mixed with radioactive wastes	Sept. 19, 1996.
D035	All others	Dec. 19, 1994.
D036	Mixed with radioactive wastes	Sept. 19, 1996.
D036	All others	Dec. 19, 1994.
D037	Mixed with radioactive wastes	Sept. 19, 1996.
D037	All others	Dec. 19, 1994.
D038	Mixed with radioactive wastes	Sept. 19, 1996.
D038	All others	Dec. 19, 1994.
D039	Mixed with radioactive wastes	Sept. 19, 1996.
D039	All others	Dec. 19, 1994.
D040	Mixed with radioactive wastes	Sept. 19, 1996.
D040	All others	Dec. 19, 1994.
D041	Mixed with radioactive wastes	Sept. 19, 1996.
D041	All others	Dec. 19, 1994.
D042	Mixed with radioactive wastes	Sept. 19, 1996.
D042	All others	Dec. 19, 1994.
D043	Mixed with radioactive wastes	Sept. 19, 1996.
D043	All others	Dec. 19, 1994.
F001	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.
F001	All others	Nov. 8, 1986.
F002 (1,1,2-trichloroethane)	Wastewater and Nonwastewater	Aug. 8, 1990.
F002	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.
F002	All others	Nov. 8, 1986.
F003	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.
F003	All others	Nov. 8, 1986.
F004	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.
F004	All others	Nov. 8, 1986.
F005 (benzene, 2-ethoxy ethanol, 2-nitropropane)	Wastewater and Nonwastewater	Aug. 8, 1990.
F005	Small quantity generators, CERCLA response/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids.	Nov. 8, 1988.
F005	All others	Nov. 8, 1986.
F006	Wastewater	Aug. 8, 1990.
F006	Nonwastewater	Aug. 8, 1988.
F006(cyanides)	Nonwastewater	July 8, 1989.
F007	All	July 8, 1989.
F008	All	July 8, 1989.
F009	All	July 8, 1989.
F010	All	June 8, 1989.
F011(cyanides)	Nonwastewater	Dec. 8, 1989.
F011	All others	July 8, 1989.
F012(cyanides)	Nonwastewater	Dec. 8, 1989.
F012	All others	July 8, 1989.
F019	All	Aug. 8, 1990.
F020	All	Nov. 8, 1988.
F021	All	Nov. 8, 1988.
F025	All	Aug. 8, 1990.
F026	All	Nov. 8, 1988.
F027	All	Nov. 8, 1988.
F028	All	Nov. 8, 1988.
F032	Mixed with radioactive wastes	May 12, 1999
F032	All others	May 12, 1997
F033	Mixed with radioactive wastes	May 12, 1999
F033	All others	May 12, 1997
F034	Mixed with radioactive wastes	May 12, 1999
F034	All others	May 12, 1997
F037	Not generated from surface impoundment cleanouts or closures	June 30, 1993.
F037	Generated from surface impoundment cleanouts or closures	June 30, 1994.
F037	Mixed with radioactive wastes	June 30, 1994.
F038	Not generated from surface impoundment cleanouts or closures	June 30, 1993.
F038	Generated from surface	June 30, 1994.

Waste code	Waste category	Effective date
	impoundment cleanouts or closures	
F038	Mixed with radioactive wastes	June 30, 1994.
F039	Wastewater	Aug. 8, 1990.
F039	Nonwastewater	May 8, 1992.
K001(organics)[b]	All	Aug. 8, 1988
K001	All others	Aug. 8, 1988.
K002	All	Aug. 8, 1990
K003	All	Aug. 8, 1990.
K004	Wastewater	Aug. 8, 1990.
K004	Nonwastewater	Aug. 8, 1988.
K005	Wastewater	Aug. 8, 1990.
K005	Nonwastewater	June 8, 1989.
K006	All	Aug. 8, 1990.
K007	Wastewater	Aug. 8, 1990.
K007	Nonwastewater	June 8, 1989.
K008	Wastewater	Aug. 8, 1990.
K008	Nonwastewater	Aug. 8, 1988.
K009	All	June 8, 1989.
K010	All	June 8, 1989.
K011	Wastewater	Aug. 8, 1990.
K011	Nonwastewate	June 8, 1989.
K013	Wastewater	Aug. 8, 1990.
K013	Nonwastewater	June 8, 1989.
K014	Wastewater	Aug. 8, 1990.
K014	Nonwastewater	June 8, 1989.
K015	Wastewater	Aug. 8, 1988.
K015	Nonwastewater	Aug. 8, 1990.
K016	All	Aug. 8, 1988.
K017	All	Aug. 8, 1990.
K018	All	Aug. 8, 1988.
K019	All	Aug. 8, 1988.
K020	All	Aug. 8, 1988.
K021	Wastewater	Aug. 8, 1990.
K021	Nonwastewater	Aug. 8, 1988.
K022	Wastewater	Aug. 8, 1990.
K022	Nonwastewater	Aug. 8, 1988.
K023	All	June 8, 1989.
K024	All	Aug. 8, 1988.
K025	Wastewater	Aug. 8, 1990.
K025	Nonwastewater	Aug. 8, 1988.
K026	All	Aug. 8, 1990.
K027	All	June 8, 1989.
K028 (metals)	Nonwastewater	Aug. 8, 1990.
K028	All others	June 8, 1989.
K029	Wastewater	Aug. 8, 1990.
K029	Nonwastewater	June 8, 1989.
K030	All	Aug. 8, 1988.
K031	Wastewater	Aug. 8, 1990.
K031	Nonwastewater	May 8, 1992.
K032	All	Aug. 8, 1990.
K033	All	Aug. 8, 1990.
K034	All	Aug. 8, 1990.
K035	All	Aug. 8, 1990.
K036	Wastewater	June 8, 1989.
K036	Nonwastewater	Aug. 8, 1988.
K037	Wastewater	Aug. 8, 1988.
K037	Nonwastewater	Aug. 8, 1988.
K038	All	June 8, 1989.
K039	All	June 8, 1989.
K040	All	June 8, 1989.
K041	All	Aug. 8, 1990.
K042	All	Aug. 8, 1990.
K043	All	June 8, 1989.
K044	All	Aug. 8, 1988.
K045	All	Aug. 8, 1988.
K046 (Nonreactive)	Nonwastewater	Aug. 8, 1988.
K046	All others	Aug. 8, 1990.
K047	All	Aug. 8, 1988.
K048	Wastewater	Aug. 8, 1990.
K048	Nonwastewater	Nov. 8, 1990.
K049	Wastewater	Aug. 8, 1990.
K049	Nonwastewater	Nov. 8, 1990.
K050	Wastewater	Aug. 8, 1990.
K050	Nonwastewater	Nov. 8, 1990.
K051	Wastewater	Aug. 8, 1990.
K051	Nonwastewater	Nov. 8, 1990.
K052	Wastewater	Aug. 8, 1990.
K052	Nonwastewater	Nov. 8, 1990.
K060	Wastewater	Aug. 8, 1990.
K060	Nonwastewater	Aug. 8, 1988.
K061	Wastewater	Aug. 8, 1990.
K061	Nonwastewater	June 30, 1992.
K062	All	Aug. 8, 1988.
K069 (Non-Calcium sulfate)	Nonwastewater	Aug. 8, 1988.
K069	All others	Aug. 8, 1990.
K071	All	Aug. 8, 1990.
K073	All	Aug. 8, 1990.
K083	All	Aug. 8, 1990.
K084	Wastewater	Aug. 8, 1990.
K084	Nonwastewater	May 8, 1992.
K085	All	Aug. 8, 1990.
K086 (organics)[b]	All	Aug. 8, 1988
K086	All others	Aug. 8, 1988
K087	All	Aug. 8, 1988.
K088	Mixed with radioactive waste	Apr. 8, 1998.
K088	All others	Jan. 8, 1997.
K093	All	June 8, 1989.
K094	All	June 8, 1989.
K095	Wastewater	Aug. 8, 1990.
K095	Nonwastewate	June 8, 1989.
K096	Wastewater	Aug. 8, 1990.
K096	Nonwastewater	June 8, 1989.
K097	All	Aug. 8, 1990.
K098	All	Aug. 8, 1990.
K099	All	Aug. 8, 1988.
K100	Wastewater	Aug. 8, 1990.
K100	Nonwastewater	Aug. 8, 1988.
K101(organics)	Wastewater	Aug. 8, 1988.
K101 (metals)	Wastewater	Aug. 8, 1990.
K101(organics)	Nonwastewater	Aug. 8, 1988.
K101 (metals)	Nonwastewater	May 8, 1992.
K102(organics)	Wastewater	Aug. 8, 1988.
K102 (metals)	Wastewater	Aug. 8, 1990.
K102(organics)	Nonwastewater	Aug. 8, 1988.
K102 (metals)	Nonwastewater	May 8, 1992.
K103	All	Aug. 8, 1988.
K104	All	Aug. 8, 1988.
K105	All	Aug. 8, 1990.
K106	Wastewater	Aug. 8, 1990.
K106	Nonwastewater	May 8, 1992.
K107	Mixed with radioactive wastes	June 30, 1994.
K107	All others	Nov. 9, 1992.
K108	Mixed with radioactive wastes	June 30, 1994.
K108	All others	Nov. 9, 1992.
K109	Mixed with radioactive wastes	June 30, 1994.
K109	All others	Nov. 9, 1992.
K110	Mixed with radioactive wastes	June 30, 1994.
K110	All others	Nov. 9, 1992.
K111	Mixed with radioactive wastes	June 30, 1994.
K111	All other	Nov. 9, 1992.
K112	Mixed with radioactive wastes	June 30, 1994.
K112	All other	Nov. 9, 1992.
K113	All	June 8, 1989.

Waste code	Waste category	Effective date
K114	All	June 8, 1989.
K115	All	June 8, 1989.
K116	All	June 8, 1989.
K117	Mixed with radioactive wastes	June 30, 1994.
K117	All others	Nov. 9, 1992.
K118	Mixed with radioactive wastes	June 30, 1994.
K118	All others	Nov. 9, 1992.
K123	Mixed with radioactive wastes	June 30, 1994.
K123	All others	Nov. 9, 1992.
K124	Mixed with radioactive wastes	June 30, 1994.
K124	All others	Nov. 9, 1992.
K125	Mixed with radioactive wastes	June 30, 1994.
K125	All others	Nov. 9, 1992.
K126	Mixed with radioactive wastes	June 30, 1994.
K126	All others	Nov. 9, 1992.
K131	Mixed with radioactive wastes	June 30, 1994.
K131	All others	Nov. 9, 1992.
K132	Mixed with radioactive wastes	June 30, 1994.
K132	All others	Nov. 9, 1992.
K136	Mixed with radioactive wastes	June 30, 1994.
K136	All others	Nov. 9, 1992.
K141	Mixed with radioactive wastes	Sep. 19, 1996.
K141	All others	Dec. 19, 1994.
K142	Mixed with radioactive wastes	Sep. 19, 1996..
K142	All others	Dec. 19, 1994.
K143	Mixed with radioactive wastes	Sep. 19, 1996.
K143	All others	Dec. 19, 1994.
K144	Mixed with radioactive wastes	Sep. 19, 1996.
K144	All others	Dec. 19, 1994.
K145	Mixed with radioactive wastes	Sep. 19, 1996.
K145	All others	Dec. 19, 1994.
K147	Mixed with radioactive wastes	Sep. 19, 1996.
K147	All others	Dec. 19, 1994.
K148	Mixed with radioactive wastes	Sep. 19, 1996.
K148	All others	Dec. 19, 1994.
K149	Mixed with radioactive wastes	Sep. 19, 1996.
K149	All others	Dec. 19, 1994.
K150	Mixed with radioactive wastes	Sep. 19, 1996.
K150	All others	Dec. 19, 1994.
K151	Mixed with radioactive wastes	Sep. 19, 1996.
K151	All others	Dec. 19, 1994.
K156	Mixed with radioactive wastes	Apr. 8, 1998.
K156	All others	July 8, 1996.
K157	Mixed with radioactive wastes	Apr. 8, 1998.
K157	All others	July 8, 1996.
K158	Mixed with radioactive wastes	Apr. 8, 1998.
K158	All others	July 8, 1996.
K159	Mixed with radioactive wastes	Apr. 8, 1998.
K159	All others	July 8, 1996.
K160	Mixed with radioactive wastes	Apr. 8, 1998.
K160	All others	July 8, 1996.
K161	Mixed with radioactive wastes	Apr. 8, 1998.
K161	All others	July 8, 1996.
P001	All	Aug. 8, 1990.
P002	All	Aug. 8, 1990.
P003	All	Aug. 8, 1990.
P004	All	Aug. 8, 1990.
P005	All	Aug. 8, 1990.
P006	All	Aug. 8, 1990.
P007	All	Aug. 8, 1990.
P008	All	Aug. 8, 1990.
P009	All	Aug. 8, 1990.
P010	Wastewater	Aug. 8, 1990.
P010	Nonwastewater	May 8, 1992.
P011	Wastewater	Aug. 8, 1990.
P011	Nonwastewater	May 8, 1992.
P012	Wastewater	Aug. 8, 1990.
P012	Nonwastewater	May 8, 1992.
P013 (barium)	Nonwastewater	Aug. 8, 1990.
P013	All	June 8, 1989.
P014	All	Aug. 8, 1990.
P015	All	Aug. 8, 1990.
P016	All	Aug. 8, 1990.
P017	All	Aug. 8, 1990.
P018	All	Aug. 8, 1990.
P020	All	Aug. 8, 1990.
P021	All	June 8, 1989.
P022	All	Aug. 8, 1990.
P023	All	Aug. 8, 1990.
P024	All	Aug. 8, 1990.
P026	All	Aug. 8, 1990.
P027	All	Aug. 8, 1990.
P028	All	Aug. 8, 1990.
P029	All	June 8, 1989.
P030	All	June 8, 1989.
P031	All	Aug. 8, 1990.
P033	All	Aug. 8, 1990.
P034	All	Aug. 8, 1990.
P036	Wastewater	Aug. 8, 1990.
P036	Nonwastewater	May 8, 1992.
P037	All	Aug. 8, 1990.
P038	Wastewater	Aug. 8, 1990.
P038	Nonwastewater	May 8, 1992.
P039	All	June 8, 1989.
P040	All.	June 8, 1989.
P041	All	June 8, 1989.
P042	All	Aug. 8, 1990.
P043	All	June 8, 1989.
P044	All	June 8, 1989.
P045	All	Aug. 8, 1990.
P046	All	Aug. 8, 1990.
P047	All	Aug. 8, 1990.
P048	All	Aug. 8, 1990.
P049	All	Aug. 8, 1990.
P050	All	Aug. 8, 1990.
P051	All	Aug. 8, 1990.
P054	All	Aug. 8, 1990.
P056	All	Aug. 8, 1990.
P057	All	Aug. 8, 1990.
P058	All	Aug. 8, 1990.
P059	All	Aug. 8, 1990.
P060	All	Aug. 8, 1990.
P062	All	June 8, 1989.
P063	All	June 8, 1989.
P064	All	Aug. 8, 1990.
P065	Wastewater	Aug. 8, 1990.
P065	Nonwastewater	May 8, 1992.
P066	All	Aug. 8, 1990.
P067	All	Aug. 8, 1990.
P068	All	Aug. 8, 1990.

Waste code	Waste category	Effective date
P069	All	Aug. 8, 1990.
P070	All	Aug. 8, 1990.
P071	All	June 8, 1989.
P072	All	Aug. 8, 1990.
P073	All	Aug. 8, 1990.
P074	All	June 8, 1989.
P075	All	Aug. 8, 1990.
P076	All	Aug. 8, 1990.
P077	All	Aug. 8, 1990.
P078	All	Aug. 8, 1990.
P081	All	Aug. 8, 1990.
P082	All	Aug. 8, 1990.
P084	All	Aug. 8, 1990.
P085	All	June 8, 1989.
P087	All	May 8, 1992.
P088	All	Aug. 8, 1990.
P089	All	June 8, 1989.
P092	Wastewater	Aug. 8, 1990.
P092	Nonwastewater	May 8, 1992.
P093	All	Aug. 8, 1990.
P094	All	June 8, 1989.
P095	All	Aug. 8, 1990.
P096	All	Aug. 8, 1990.
P097	All	June 8, 1989.
P098	All	June 8, 1989.
P099 (silver)	Wastewater	Aug. 8, 1990.
P099	All others	June 8, 1989.
P101	All	Aug. 8, 1990.
P102	All	Aug. 8, 1990.
P103	All	Aug. 8, 1990.
P104 (silver)	Wastewater	Aug. 8, 1990.
P104	All others	June 8, 1989.
P105	All	Aug. 8, 1990.
P106	All	June 8, 1989.
P108	All	Aug. 8, 1990.
P109	All	June 8, 1989.
P110	All	Aug. 8, 1990.
P111	All	June 8, 1989.
P112	All	Aug. 8, 1990.
P113	All	Aug. 8, 1990.
P114	All	Aug. 8, 1990.
P115	All	Aug. 8, 1990.
P116	All	Aug. 8, 1990.
P118	All	Aug. 8, 1990.
P119	All	Aug. 8, 1990.
P120	All	Aug. 8, 1990.
P121	All	June 8, 1989.
P122	All	Aug. 8, 1990.
P123	All	Aug. 8, 1990.
P127	Mixed with radioactive waste	Apr. 8, 1998.
P127	All others	July 8, 1996.
P128	Mixed with radioactive wastes	Apr. 8, 1998.
P128	All others	July 8, 1996.
P185	Mixed with radioactive wastes	Apr. 8, 1998.
P185	All others	July 8, 1996.
P188	Mixed with radioactive wastes	Apr. 8, 1998.
P188	All others	July 8, 1996.
P189	Mixed with radioactive wastes	Apr. 8, 1998.
P189	All others	July 8, 1996.
P190	Mixed with radioactive wastes	Apr. 8, 1998.
P190	All others	July 8, 1996.
P191	Mixed with radioactive wastes	Apr. 8, 1998.
P191	All others	July 8, 1996.
P192	Mixed with radioactive wastes	Apr. 8, 1998.
P192	All others	July 8, 1996.
P194	Mixed with radioactive wastes	Apr. 8, 1998.
P194	All others	July 8, 1996.
P196	Mixed with radioactive wastes	Apr. 8, 1998.
P196	All others	July 8, 1996.
P197	Mixed with radioactive wastes	Apr. 8, 1998.
P197	All others	July 8, 1996.
P198	Mixed with radioactive wastes	Apr. 8, 1998.
P198	All others	July 8, 1996.
P199	Mixed with radioactive wastes	Apr. 8, 1998.
P199	All others	July 8, 1996.
P201	Mixed with radioactive wastes	Apr. 8, 1998.
P201	All others	July 8, 1996.
P202	Mixed with radioactive wastes	Apr. 8, 1998.
P202	All others	July 8, 1996.
P203	Mixed with radioactive wastes	Apr. 8, 1998.
P203	All others	July 8, 1996.
P204	Mixed with radioactive wastes	Apr. 8, 1998.
P204	All others	July 8, 1996.
P205	Mixed with radioactive wastes	Apr. 8, 1998.
P205	All others	July 8, 1996.
U001	All	Aug 8, 1990.
U002	All	Aug 8, 1990.
U003	All	Aug 8, 1990.
U004	All	Aug 8, 1990.
U005	All	Aug. 8, 1990.
U006	All	Aug. 8, 1990.
U007	All	Aug. 8, 1990.
U008	All	Aug. 8, 1990.
U009	All	Aug. 8, 1990.
U010	All	Aug. 8, 1990.
U011	All	Aug. 8, 1990.
U012	All	Aug. 8, 1990.
U014	All	Aug. 8, 1990.
U015	All	Aug. 8, 1990.
U016	All	Aug. 8, 1990.
U017	All	Aug. 8, 1990.
U018	All	Aug. 8, 1990.
U019	All	Aug. 8, 1990.
U020	All	Aug. 8, 1990.
U021	All	Aug. 8, 1990.
U022	All	Aug. 8, 1990.
U023	All	Aug. 8, 1990.
U024	All	Aug. 8, 1990.
U025	All	Aug. 8, 1990.
U026	All	Aug. 8, 1990.
U027	All	Aug. 8, 1990.
U028	All	June 8, 1989.
U029	All	Aug. 8, 1990.
U030	All	Aug. 8, 1990.
U031	All	Aug. 8, 1990.
U032	All	Aug. 8, 1990.
U033	All	Aug. 8, 1990.
U034	All	Aug. 8, 1990.
U035	All	Aug. 8, 1990.
U036	All	Aug. 8, 1990.
U037	All	Aug. 8, 1990.
U038	All	Aug. 8, 1990.
U039	All	Aug. 8, 1990.
U041	All	Aug. 8, 1990.
U042	All	Aug. 8, 1990.
U043	All	Aug. 8, 1990.

Waste code	Waste category	Effective date
U044	All	Aug. 8, 1990.
U045	All	Aug. 8, 1990.
U046	All	Aug. 8, 1990.
U047	All	Aug. 8, 1990.
U048	All	Aug. 8, 1990.
U049	All	Aug. 8, 1990.
U050	All	Aug. 8, 1990.
U051	All	Aug. 8, 1990.
U052	All	Aug. 8, 1990.
U053	All	Aug. 8, 1990.
U055	All	Aug. 8, 1990.
U056	All	Aug. 8, 1990.
U057	All	Aug. 8, 1990.
U058	All	June 8, 1989.
U059	All	Aug. 8, 1990.
U060	All	Aug. 8, 1990.
U061	All	Aug. 8, 1990.
U062	All	Aug. 8, 1990.
U063	All	Aug. 8, 1990.
U064	All	Aug. 8, 1990.
U066	All	Aug. 8, 1990.
U067	All	Aug. 8, 1990.
U068	All	Aug. 8, 1990.
U069	All	June 30, 1992.
U070	All	Aug. 8, 1990.
U071	All	Aug. 8, 1990.
U072	All	Aug. 8, 1990.
U073	All	Aug. 8, 1990.
U074	All	Aug. 8, 1990.
U075	All	Aug. 8, 1990.
U076	All	Aug. 8, 1990.
U077	All	Aug. 8, 1990.
U078	All	Aug. 8, 1990.
U079	All	Aug. 8, 1990.
U080	All	Aug. 8, 1990.
U081	All	Aug. 8, 1990.
U082	All	Aug. 8, 1990.
U083	All	Aug. 8, 1990.
U084	All	Aug. 8, 1990.
U085	All	Aug. 8, 1990.
U086	All	Aug. 8, 1990.
U087	All	June 8, 1989.
U088	All	June 8, 1989.
U089	All	Aug. 8, 1990.
U090	All	Aug. 8, 1990.
U091	All	Aug. 8, 1990.
U092	All	Aug. 8, 1990.
U093	All	Aug. 8, 1990.
U094	All	Aug. 8, 1990.
U095	All	Aug. 8, 1990.
U096	All	Aug. 8, 1990.
U097	All	Aug. 8, 1990.
U098	All	Aug. 8, 1990.
U099	All	Aug. 8, 1990.
U101	All	Aug. 8, 1990.
U102	All	June 8, 1989.
U103	All	Aug. 8, 1990.
U105	All	Aug. 8, 1990.
U106	All	Aug. 8, 1990.
U107	All	June 8, 1989.
U108	All	Aug. 8, 1990.
U109	All	Aug. 8, 1990.
U110	All	Aug. 8, 1990.
U111	All	Aug. 8, 1990.
U112	All	Aug. 8, 1990.
U113	All	Aug. 8, 1990.
U114	All	Aug. 8, 1990.
U115	All	Aug. 8, 1990.
U116	All	Aug. 8, 1990.
U117	All	Aug. 8, 1990.
U118	All	Aug. 8, 1990.
U119	All	Aug. 8, 1990.

Waste code	Waste category	Effective date
U120	All	Aug. 8, 1990.
U121	All	Aug. 8, 1990.
U122	All	Aug. 8, 1990.
U123	All	Aug. 8, 1990.
U124	All	Aug. 8, 1990.
U125	All	Aug. 8, 1990.
U126	All	Aug. 8, 1990.
U127	All	Aug. 8, 1990.
U128	All	Aug. 8, 1990.
U129	All	Aug. 8, 1990.
U130	All	Aug. 8, 1990.
U131	All	Aug. 8, 1990.
U132	All	Aug. 8, 1990.
U133	All	Aug. 8, 1990.
U134	All	Aug. 8, 1990.
U135	All	Aug. 8, 1990.
U136	Wastewater	Aug. 8, 1990.
U136	Nonwastewater	May 8, 1992.
U137	All	Aug. 8, 1990.
U138	All	Aug. 8, 1990.
U140	All	Aug. 8, 1990.
U141	All	Aug. 8, 1990.
U142	All	Aug. 8, 1990.
U143	All	Aug. 8, 1990.
U144	All	Aug. 8, 1990.
U145	All	Aug. 8, 1990.
U146	All	Aug. 8, 1990.
U147	All	Aug. 8, 1990.
U148	All	Aug. 8, 1990.
U149	All	Aug. 8, 1990.
U150	All	Aug. 8, 1990.
U151	Wastewater	Aug. 8, 1990.
U151	Nonwastewater	May 8, 1992.
U152	All	Aug. 8, 1990.
U153	All	Aug. 8, 1990.
U154	All	Aug. 8, 1990.
U155	All	Aug. 8, 1990.
U156	All	Aug. 8, 1990.
U157	All	Aug. 8, 1990.
U158	All	Aug. 8, 1990.
U159	All	Aug. 8, 1990.
U160	All	Aug. 8, 1990.
U161	All	Aug. 8, 1990.
U162	All	Aug. 8, 1990.
U163	All	Aug. 8, 1990.
U164	All	Aug. 8, 1990.
U165	All	Aug. 8, 1990.
U166	All	Aug. 8, 1990.
U167	All	Aug. 8, 1990.
U168	All	Aug. 8, 1990.
U169	All	Aug. 8, 1990.
U170	All	Aug. 8, 1990.
U171	All	Aug. 8, 1990.
U172	All	Aug. 8, 1990.
U173	All	Aug. 8, 1990.
U174	All	Aug. 8, 1990.
U176	All	Aug. 8, 1990.
U177	All	Aug. 8, 1990.
U178	All	Aug. 8, 1990.
U179	All	Aug. 8, 1990.
U180	All	Aug. 8, 1990.
U181	All	Aug. 8, 1990.
U182	All	Aug. 8, 1990.
U183	All	Aug. 8, 1990.
U184	All	Aug. 8, 1990.
U185	All	Aug. 8, 1990.
U186	All	Aug. 8, 1990.
U187	All	Aug. 8, 1990.
U188	All	Aug. 8, 1990.
U189	All	Aug. 8, 1990.
U190	All	June 8, 1989.
U191	All	Aug. 8, 1990.

Waste code	Waste category	Effective date
U192	All	Aug. 8, 1990.
U193	All	Aug. 8, 1990.
U194	All	June 8, 1989.
U196	All	Aug. 8, 1990.
U197	All	Aug. 8, 1990.
U200	All	Aug. 8, 1990.
U201	All	Aug. 8, 1990.
U202	All	Aug. 8, 1990.
U203	All	Aug. 8, 1990.
U204	All	Aug. 8, 1990.
U205	All	Aug. 8, 1990.
U206	All	Aug. 8, 1990.
U207	All	Aug. 8, 1990.
U208	All	Aug. 8, 1990.
U209	All	Aug. 8, 1990.
U210	All	Aug. 8, 1990.
U211	All	Aug. 8, 1990.
U213	All	Aug. 8, 1990.
U214	All	Aug. 8, 1990.
U215	All	Aug. 8, 1990.
U216	All	Aug. 8, 1990.
U217	All	Aug. 8, 1990.
U218	All	Aug. 8, 1990.
U219	All	Aug. 8, 1990.
U220	All	Aug. 8, 1990.
U221	All	June 8, 1989.
U222	All	Aug. 8, 1990.
U223	All	June 8, 1989.
U225	All	Aug. 8, 1990.
U226	All	Aug. 8, 1990.
U227	All	Aug. 8, 1990.
U228	All	Aug. 8, 1990.
U234	All	Aug. 8, 1990.
U235	All	June 8, 1989.
U236	All	Aug. 8, 1990.
U237	All	Aug. 8, 1990.
U238	All	Aug. 8, 1990.
U239	All	Aug. 8, 1990.
U240	All	Aug. 8, 1990.
U243	All	Aug. 8, 1990.
U244	All	Aug. 8, 1990.
U246	All	Aug. 8, 1990.
U247	All	Aug. 8, 1990.
U248	All	Aug. 8, 1990.
U249	All	Aug. 8, 1990.
U271	Mixed with radioactive wastes	Apr. 8, 1998.
U271	All others	July 8, 1996.
U277	Mixed with radioactive wastes	Apr. 8, 1998.
U277	All others	July 8, 1996.
U278	Mixed with radioactive wastes	Apr. 8, 1998.
U278	All others	July 8, 1996.
U279	Mixed with radioactive wastes	Apr. 8, 1998.
U279	All others	July 8, 1996.
U280	Mixed with radioactive wastes	Apr. 8, 1998.
U280	All others	July 8, 1996.
U328	Mixed with radioactive wastes	June 30, 1994.
U328	All others	Nov. 9, 1992.
U353	Mixed with radioactive wastes	June 30, 1994.
U353	All others	Nov. 9, 1992.
U359	Mixed with radioactive wastes	June 30, 1994.
U359	All others	Nov. 9, 1992.
U364	Mixed with radioactive wastes	Apr. 8, 1998.
U364	All others	July 8, 1996.
U365	Mixed with radioactive wastes	Apr. 8, 1998.
U365	All others	July 8, 1996.
U366	Mixed with radioactive wastes	Apr. 8, 1998.
U366	All others	July 8, 1996.
U367	Mixed with radioactive wastes	Apr. 8, 1998.
U367	All others	July 8, 1996.
U372	Mixed with radioactive wastes	Apr. 8, 1998.
U372	All others	July 8, 1996.
U373	Mixed with radioactive wastes	Apr. 8, 1998.
U373	All others	July 8, 1996.
U375	Mixed with radioactive wastes	Apr. 8, 1998.
U375	All others	July 8, 1996.
U376	Mixed with radioactive wastes	Apr. 8, 1998.
U376	All others	July 8, 1996.
U377	Mixed with radioactive wastes	Apr. 8, 1998.
U377	All others	July 8, 1996.
U378	Mixed with radioactive wastes	Apr. 8, 1998.
U378	All others	July 8, 1996.
U379	Mixed with radioactive wastes	Apr. 8, 1998.
U379	All others	July 8, 1996.
U381	Mixed with radioactive wastes	Apr. 8, 1998.
U381	All others	July 8, 1996.
U382	Mixed with radioactive wastes	Apr. 8, 1998.
U382	All others	July 8, 1996.
U383	Mixed with radioactive wastes	Apr. 8, 1998.
U383	All others	July 8, 1996.
U384	Mixed with radioactive wastes	Apr. 8, 1998.
U384	All others	July 8, 1996.
U385	Mixed with radioactive wastes	Apr. 8, 1998.
U385	All others	July 8, 1996.
U386	Mixed with radioactive wastes	Apr. 8, 1998.
U386	All others	July 8, 1996.
U387	Mixed with radioactive wastes	Apr. 8, 1998.
U387	All others	July 8, 1996.
U389	Mixed with radioactive wastes	Apr. 8, 1998.
U389	All others	July 8, 1996.
U390	Mixed with radioactive wastes	Apr. 8, 1998.
U390	All others	July 8, 1996.
U391	Mixed with radioactive wastes	Apr. 8, 1998.
U391	All others	July 8, 1996.
U392	Mixed with radioactive wastes	Apr. 8, 1998.
U392	All others	July 8, 1996.
U393	Mixed with radioactive wastes	Apr. 8, 1998.
U393	All others	July 8, 1996.
U394	Mixed with radioactive wastes	Apr. 8, 1998.
U394	All others	July 8, 1996.
U395	Mixed with radioactive wastes	Apr. 8, 1998.
U395	All others	July 8, 1996.
U396	Mixed with radioactive	Apr. 8, 1998.

Waste code	Waste category	Effective date
	wastes	
U396	All others	July 8, 1996.
U400	Mixed with radioactive wastes	Apr. 8, 1998.
U400	All others	July 8, 1996.
U401	Mixed with radioactive wastes	Apr. 8, 1998.
U401	All others	July 8, 1996.
U402	Mixed with radioactive wastes	Apr. 8, 1998.
U402	All others	July 8, 1996.
U403	Mixed with radioactive wastes	Apr. 8, 1998.
U403	All others	July 8, 1996.
U404	Mixed with radioactive wastes	Apr. 8, 1998.
U404	All others	July 8, 1996.
U407	Mixed with radioactive wastes	Apr. 8, 1998.
U407	All others	July 8, 1996.
U409	Mixed with radioactive wastes	Apr. 8, 1998.
U409	All others	July 8, 1996.
U410	Mixed with radioactive wastes	Apr. 8, 1998.
U410	All others	July 8, 1996.
U411	Mixed with radioactive wastes	Apr. 8, 1998.
U411	All others	July 8, 1996.

(9/98)

[a] This table does not include mixed radioactive wastes (from the First, Second, and Third Third rules) which received national capacity variance until May 8, 1992 . This table also does not include contaminated soil and debris wastes.
[b] The standard was revised in the Third Third Final Rule (55 FR 22520, June 1, 1990).
[c] The standard was revised in the Third ThirdEmergency Rule (58 FR 29860, May 24, 1993); the original effective date was August 8, 1990.
[d] The standard was revised in the Phase II Final Rule (59 FR 47982, Sept. 19, 1994); the original effective date was August 8, 1990.
[e] The standards for selected reactive wastes was revised in the Phase III Final Rule (61 FR 15566, Apr. 8, 1996); the original effective date was August 8, 1990.

Appendix VII - Table 2 - Summary of effective dates of land disposal restrictions for contaminated soil and debris (CSD)

Restricted hazardous waste in CSD (9/98)	Effective Date
1. Solvent (F001-F005) and dioxin (F020 - F023 & F026 - F028) containing soil and debris from CERCLA response or RCRA corrective actions	11/8/90
2. Soil and debris not from CERCLA response or RCRA corrective actions contaminated with less than 1 % total solvents (F001-F005) or dioxins (F020-F023 & F026-F028)	11/8/88
3. All soil and debris contaminated with First Third wastes for which treatment standards are based on incineration	8/8/90
4. All soil and debris contaminated with Second Third wastes for which treatment standards are based on incineration	6/8/91
5. All soil and debris contaminated with Third Third wastes or, First or Second Third Asoft hammer@ wastes which had treatment standards promulgated in the Third Third rule for which treatment standards are based on incineration, vitrification, or mercury retorting, acid leaching followed by chemical precipitation, or thermal recovery of metals; as well as inorganic solids debris contaminated with D004-D011 wastes, and all solid and debris contaminated with mixed RCRA/radioactive wastes	5/8/92
6. Soil and debris contaminated with D012-D043, K141-K145, and K147-K151 wastes	12/19/94
7. Debris (only) contaminated with F037, F038, K107-K112, K117, K118, K123-K126, K131, K132, K136, U328 - U353, U359	12/19/94
8. Soil and debris contaminated with K156-161, P127, P128, P188-192, P194, P196-199, P201-205, U271, U277-U280, U364-U367, U372, U373, U375-U379, U381-U387, U389-U396, U400-404, U407, and U409-411 wastes	7/8/96
9. Soil and debris contaminated with K088 wastes	10/8/97
10. Soil and debris contaminated with radioactive wastes mixed with K088, K156-161, P127, P128, P188-192, P194, P196-199, P201-205, U271, U277-280, U364-367, U372, U373, U375-379, U381-387, U389-396, U400-404, U407, and U409-411 wastes	4/8/98
11. Soil and debris contaminated with F032, F034, and F035	5/12/97

Note: Appendix VII is provided for the convenience of the reader.

Appendix VIII - LDR Effective Dates of Surface Disposed Prohibited Hazardous Wastes

National Capacity LDR Variances for UIC Wastes See also R.61-87.11.D.2		
Waste code	**Waste category** (9/98)	**Effective date**
F001-F005	All spent F001-F005 solvent containing less than 1 percent total F001-F005 solvent constituents.	Aug. 8, 1990.
D001 (except High TOC Ignitable Liquids Subcategory).	All	Feb. 10, 1994.
D001 (High TOC Ignitable Characteristic Liquids Subcategory).	Nonwastewater	Sept. 19, 1995.
D002	All	May 8, 1992.
D002	All	Feb. 10, 1994.
D003 (cyanides	All	May 8, 1992.
D003 (sulfides)	All	May 8, 1992.
D003 (explosives, reactives)	All	May 8, 1992.
D007	All	May 8, 1992.
D009	Nonwastewater	May 8, 1992.
D012	All	Sept. 19, 1995.
D013	All	Sept. 19, 1995.
D014	All	Sept. 19, 1995.
D015	All	Sept. 19, 1995.
D016	All	Sept. 19, 1995.
D017	All	Sept. 19, 1995.
D018	All, including mixed with radioactive wastes.	Apr. 8, 1998.
D019	All, including mixed with radioactive wastes.	Apr. 8, 1998.
D020	All, including mixed with radioactive wastes.	Apr. 8, 1998.

National Capacity LDR Variances for UIC Wastes See also R.61-87.11.D.2		
Waste code	**Waste category** (9/98)	**Effective date**
D021	All, including mixed with radioactive wastes.	Apr. 8, 1998.
D022	All, including mixed with radioactive wastes.	Apr. 8, 1998.
D023	All, including mixed radioactive wastes	Apr. 8, 1998.
D024	All, including mixed radioactive wastes	Apr. 8, 1998.
D025	All, including mixed radioactive wastes	Apr. 8, 1998.
D026	All, including mixed radioactive wastes	Apr. 8, 1998.
D027	All, including mixed radioactive wastes	Apr. 8, 1998.
D028	All, including mixed radioactive wastes	Apr. 8, 1998.
D029	All, including mixed radioactive wastes	Apr. 8, 1998.
D030	All, including mixed radioactive wastes	Apr. 8, 1998.
D031	All, including mixed radioactive wastes	Apr. 8, 1998.
D032	All, including mixed radioactive wastes	Apr. 8, 1998.
D033	All, including mixed radioactive wastes	Apr. 8, 1998.
D034	All, including mixed radioactive wastes	Apr. 8, 1998.
D035	All, including mixed radioactive wastes	Apr. 8, 1998.
D036	All, including mixed radioactive wastes	Apr. 8, 1998.
D037	All, including mixed radioactive wastes	Apr. 8, 1998.
D038	All, including mixed radioactive wastes	Apr. 8, 1998.
D039	All, including mixed radioactive wastes	Apr. 8, 1998.
D040	All, including mixed radioactive wastes	Apr. 8, 1998.
D041	All, including mixed radioactive wastes	Apr. 8, 1998.
D042	All, including mixed radioactive wastes	Apr. 8, 1998.
D043	All, including mixed radioactive wastes	Apr. 8, 1998.
F007	All	June 8, 1991.
F032	All, including mixed radioactive wastes	May 12, 1999.
F034	All, including mixed radioactive wastes	May 12,1999.
F035	All, including mixed radioactive wastes	May 12, 1999.
F037	All	Nov. 8, 1992.
F038	All	Nov. 8, 1992.
F039	Wastewater	May 8, 1992.
K009	Wastewater	June 8, 1991.
K011	Nonwastewater	June 8, 1991.
K011	Wastewater	May 8, 1992.
K013	Nonwastewater	June 8, 1991.
K013	Wastewater	May 8, 1992.
K014	All	May 8, 1992.
K016 (dilute)	All	June 8, 1991.
K049	All	Aug. 8, 1990.

National Capacity LDR Variances for UIC Wastes See also R.61-87.11.D.2		
Waste code	**Waste category** (9/98)	**Effective date**
K050	All	Aug. 8, 1990.
K051	All	Aug. 8, 1990.
K052	All	Aug. 8, 1990.
K062	All	Aug. 8, 1990.
K071	All	Aug. 8, 1990.
K088	All	Jan. 8, 1997.
K104	All	Aug. 8, 1990.
K107	All	Nov. 8, 1992.
K108	All	Nov. 9, 1992.
K109	All	Nov. 9, 1992.
K110	All	Nov. 9, 1992.
K111	All	Nov. 9, 1992.
K112	All	Nov. 9, 1992.
K117	All	June 30, 1995.
K118	All	June 30, 1995.
K123	All	Nov. 9, 1992.
K124	All	Nov. 9, 1992.
K125	All	Nov. 9, 1992.
K126	All	Nov. 9, 1992.
K131	All	June 30, 1995.
K132	All	June 30, 1995.
K136	All	Nov. 9, 1992.
K141	All	Dec. 19, 1994.
K142	All	Dec. 19, 1994.
K143	All	Dec. 19, 1994.
K144	All	Dec. 19, 1994.
K145	All	Dec. 19, 1994.
K147	All	Dec. 19, 1994.
K148	All	Dec. 19, 1994.
K149	All	Dec. 19, 1994.
K150	All	Dec. 19, 1994.
K151	All	Dec. 19, 1994.
K156	All	July 8, 1996.
K157	All	July 8, 1996.
K158	All	July 8, 1996.
K159	All	July 8, 1996.
K160	All	July 8, 1996.
K161	All	July 8, 1996.
P127	All	July 8, 1996.
P128	All	July 8, 1996.
P185	All	July 8, 1996.
P188	All	July 8, 1996.
P189	All	July 8, 1996.
P190	All	July 8, 1996.
P191	All	July 8, 1996.
P192	All	July 8, 1996.
P194	All	July 8, 1996.
P196	All	July 8, 1996.
P197	All	July 8, 1996.
P198	All	July 8, 1996.
P199	All	July 8, 1996.
P201	All	July 8, 1996.
P202	All	July 8, 1996.
P203	All	July 8, 1996.
P204	All	July 8, 1996.
P205	All	July 8, 1996.
U271	All	July 8, 1996.
U277	All	July 8, 1996.
U278	All	July 8, 1996.
U279	All	July 8, 1996.
U280	All	July 8, 1996.
U328	All	Nov. 9, 1992.
U353	All	Nov. 9, 1992.

National Capacity LDR Variances for UIC Wastes See also R.61-87.11.D.2		
Waste code	**Waste category** (9/98)	**Effective date**
U359	All	Nov. 9, 1992.
U364	All	July 8, 1996.
U365	All	July 8, 1996.
U366	All	July 8, 1996.
U367	All	July 8, 1996.
U372	All	July 8, 1996.
U373	All	July 8, 1996.
U375	All	July 8, 1996.
U376	All	July 8, 1996.
U377	All	July 8, 1996.
U378	All	July 8, 1996.
U379	All	July 8, 1996.
U381	All	July 8, 1996.
U382	All	July 8, 1996.
U383	All	July 8, 1996.
U384	All	July 8, 1996.
U385	All	July 8, 1996.
U386	All	July 8, 1996.

National Capacity LDR Variances for UIC Wastes See also R.61-87.11.D.2		
Waste code	**Waste category** (9/98)	**Effective date**
U387	All	July 8, 1996.
U389	All	July 8, 1996.
U390	All	July 8, 1996.
U391	All	July 8, 1996.
U392	All	July 8, 1996.
U395	All	July 8, 1996.
U396	All	July 8, 1996.
U400	All	July 8, 1996.
U401	All	July 8, 1996.
U402	All	July 8, 1996.
U403	All	July 8, 1996.
U404	All	July 8, 1996.
U407	All	July 8, 1996.
U409	All	July 8, 1996.
U410	All	July 8, 1996.
U411	All	July 8, 1996.

Note: This table is provided for the convenience of the reader.

Appendix IX - Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test (SW-846, Method 1310)

Note: The EP (Method 1310) is published in "Test Methods for Evaluating Solid Waste, Physical/ Chemical Methods," EPA Publication SW-846, as incorporated by reference in R.61-79.260.11. (12/93)

Appendix X - [Reserved 9/98]

Appendix XI - Metal Bearing Wastes Prohibited From Dilution in a Combustion Unit According to 268.3(c)[1]

Waste code	Waste description (9/98)
D004	Toxicity Characteristic for Arsenic.
D005	Toxicity Characteristic for Barium.
D006	Toxicity Characteristic for Cadmium.
D007	Toxicity Characteristic for Chromium.
D008	Toxicity Characteristic for Lead.
D009	Toxicity Characteristic for Mercury.
D010	Toxicity Characteristic for Selenium.
D011	Toxicity Characteristic for Silver.
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.
F007	Spent cyanide plating bath solutions from electroplating operations.
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.
F010	Quenching bath residues from oil baths from metal treating operations where cyanides are used in the process.
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum car washing when such phosphating is an exclusive conversion coating process.
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.
K003	Wastewater treatment sludge from the production of molybdate orange pigments.
K004	Wastewater treatment sludge from the production of zinc yellow pigments.
K005	Wastewater treatment sludge from the production of chrome green pigments.
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).
K007	Wastewater treatment sludge from the production of iron blue pigments.
K008	Oven residue from the production of chrome oxide green pigments.
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.
K069	Emission control dust/sludge from secondary lead smelting.
K071	Brine purification muds from the mercury cell processes in chlorine production, where separately prepurified brine is not used.
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.
K106	Sludges from the mercury cell processes for making chlorine.
P010	Arsenic acid H_3AsO_4
P011	Arsenic oxide As_2O_5
P012	Arsenic trioxide
P013	Barium cyanide
P015	Beryllium
P029	Copper cyanide Cu(CN)
P074	Nickel cyanide $Ni(CN)_2$
P087	Osmium tetroxide
P099	Potassium silver cyanide
P104	Silver cyanide
P113	Thallic oxide
P114	Thallium (I) selenite
P115	Thallium (I) sulfate
P119	Ammonium vanadate
P120	Vanadium oxide V_2O_5
P121	Zinc cyanide.
U032	Calcium chromate.
U145	Lead phosphate.
U151	Mercury.
U204	Selenious acid.
U205	Selenium disulfide.
U216	Thallium (I) chloride.
U217	Thallium (I) nitrate.

[1] A combustion unit is defined as any thermal technology subject to part 264, subpart O; Part 265, subpart O; and/or 266, subpart H

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270 - ADMINISTERED PERMIT PROGRAMS; THE HAZARDOUS WASTE PERMIT PROGRAM

Subpart A - GENERAL INFORMATION

270.1 Purpose and scope of these regulations

(a) Coverage.

(1) The regulations in this part cover basic permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These regulations are part of a regulatory scheme implementing RCRA in the State of South Carolina, as set forth in different parts of the South Carolina Hazardous Waste Management Regulations (SCHWMR), The following chart indicates where the regulations implementing RCRA appear in the SCHWMR. (12/92; 12/93)

Section of RCRA	Coverage	Final Regulation as appears in R.61-79
Subtitle C	Overview and definitions	260
3001	Identification and listing of hazardous waste	261
3002	Generators of hazardous waste	262
3003	Transporters of hazardous waste	263
3004	Standards for HWM facilities	264, 265, and .266
3005	Permit requirements for HWM facilities	270 and 124
3010	Preliminary notification of HWM activity	44-56-120; 45 FR 12746 2/26/80

(2) Technical regulations. The permit program under these regulations has separate additional regulations that contain technical requirements. These separate regulations are used by the Department to determine what requirements must be placed in permits if they are issued. These separate regulations are located in 264, 266. (12/93)

(b) Overview of the Permit Program. Not later than 90 days after the promulgation or revision of regulations in part 261 (identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under South Carolina section 44-56-60 and section 3010 of RCRA. Six months after the initial promulgation of the 261 regulations, transporting, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a permit under these regulations is prohibited. A permit application for a facility consists of two parts, Part A (see section 270.13) and Part B (see section 270.14 and applicable sections in 270.15 through 270.29). For "existing HWM facilities," the requirement to submit an application is satisfied by submitting only Part A of the permit application until the date the Department sets for submitting Part B of the application. (Part A consists of Forms 1 and 3 of the Consolidated Permit Application Forms.) Timely submission of both notification under 44-56-60 and under section 3010 and Part A qualifies owners and operators of existing HWM facilities (who are required to have a permit under these regulations) for interim status under SC 44-56-60 and 3005(e) of RCRA. Facility owners and operators with interim status are treated as having been issued a permit until the Department makes a final determination on the permit application. Facility owners and operators with interim status must comply with interim status standards set forth at 265 and .266. Facility owners and operators with interim status are not relieved from complying with other State requirements. For existing HWM facilities, the Department shall set a date, giving at least six months notice, for submission of Part B of the application. There is no form for Part B of the application; rather, Part B must be submitted in narrative form and contain the information set forth in the applicable Sections 270.14 through 270.29. Owners or operators of new HWM facilities must submit parts A and B of the permit application at least 180 days before physical construction is expected to commence. (12/92; 12/93)

(c) Scope of the Permit Requirement. The Department requires a permit under these regulations for the "transportation," "treatment," "storage," or "disposal" of any "hazardous waste" as identified or listed in 261. The terms "transportation," "treatment," "storage," "disposal," and "hazardous waste" are defined in 260 Subpart B and 270.2. Owners and operators of hazardous waste management units must have permits during

the active life (including the closure period) of the unit. Owners and operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982, or that certified closure (according to 265.115) after January 26, 1983, must have postclosure permits unless they demonstrate closure by removal or decontamination as provided under 270.1(c) (5) and (6). If a postclosure permit is required, the permit must address applicable part 264 groundwater monitoring, unsaturated zone monitoring, corrective action, and postclosure care requirements of this chapter. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a postclosure permit under this section. (11/90; 12/92; 12/93; 8/00. 2/07)

(1) Specific inclusions. Owners and operators of certain facilities require hazardous waste permits under these regulations as well as permits under other programs for certain aspects of the facility operation. Hazardous waste permits under these regulations are required for: (12/93)

(i) Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store or dispose of hazardous waste, (see 270.64). However, the owner and operator with a state approved UIC permit will be deemed to have a hazardous waste permit under these regulations for the injection well itself if they comply with the requirements of Section 270.60(b). (12/93)

(ii) Treatment, storage, or disposal of hazardous waste at facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a hazardous waste permit under these regulations for that waste if they comply with the requirements of 270.60(c) (permit-by-rule for POTWs). (12/92; 12/93)

(iii) Barges or vessels that dispose of hazardous waste by ocean disposal and on shore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have a hazardous waste permit for ocean disposal from the barge or vessel itself if they comply with the requirements of Section 270.60(a) (permit-by-rule for ocean disposal barges and vessels). (12/92; 12/93)

(2) Specific exclusions. The following persons are among those who are not required to obtain a permit under these regulations: (12/93)

(i) Generators who accumulate hazardous waste onsite for less than the time periods provided in 262.34.

(ii) Farmers who dispose of hazardous waste pesticides from their own use as provided in 262.70. (11/90)

(iii) Persons who own or operate facilities solely for the treatment, storage or disposal of hazardous waste excluded from regulations under this Part by 261.4 or 261.5 (small generator exemption).

(iv) Owners or operators of totally enclosed treatment facilities as defined in 260.10.

(v) Owners and operators of elementary neutralization units or wastewater treatment units as defined in 260.10.

(vi) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of 262.30 at a transfer facility for a period of ten days or less.

(vii) Persons adding absorbent material to waste in a container (as defined in 260.10) and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and 264.17(b) , 264.171, and 264.172 are complied with. (12/93)

(viii) Universal waste handlers and universal waste transporters (as defined in 260.10) managing the wastes listed below. These handlers are subject to regulation under 273. (5/96)

(A) Batteries as described in 273.2;

(B) Pesticides as described in 273.3; (8/00)

(C) Mercury containing equipment as described in 273.4; and (8/00 & 6/07)

(D) Lamps as described in 273.5. (8/00)

(ix) Any transporter who does not accept or deliver any hazardous waste within the State. (5/96)

(x) Any transporter who moves hazardous waste only on the site of a hazardous waste generator or a permitted hazardous waste treatment, storage or disposal facility.

(3) Further exclusions.

(i) A person is not required to obtain a permit under these regulations for treatment or containment activities taken during immediate response to any of the following situations: (12/93)

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(D) An immediate threat to human health, public safety, property, or the environment from the known or suspected presence of military munitions, other explosive material, or an explosive device, as determined by an explosive or munitions emergency response specialist as defined in 260.10. (9/98)

(ii) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of these Regulations for those activities.

(iii) In the case of emergency responses involving military munitions, the responding military emergency response specialist's organizational unit must retain records for three years identifying the dates of the response, the responsible persons responding, the type and description of material addressed, and its disposition. (9/98)

(4) Permits for less than an entire facility. The Department may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(5) Closure by removal. (11/90) Owners/operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under part 265 standards must obtain a postclosure permit unless they can demonstrate to the Department that the closure met the standards for closure by removal or decontamination in 264.228, 264.280(e), or 264.258, respectively. The demonstration may be made in the following ways:

(i) If the owner/operator has submitted a Part B application for a postclosure permit, the owner/operator may request a determination, based on information contained in the application, that section 264 closure by removal standards were met. If the Department believes that 264 standards were met, it will notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in paragraph (c)(6) of this section. (12/92)

(ii) If the owner/operator has not submitted a Part B application for a postclosure permit, the owner/operator may petition the Department for a determination that a postclosure permit is not required because the closure met the applicable part 264 closure standards.

(A) The petition must include data demonstrating that closure by removal or decontamination standards were met, or it must demonstrate that the unit closed under State requirements that met or exceeded the applicable 264 closure-by-removal standard.

(B) The Department shall approve or deny the petition according to the procedures outlined in paragraph (c)(6) of this section.

(6) Procedures for closure equivalency determination. (11/90)

(i) If a facility owner/operator seeks an equivalency demonstration under 270.1(c)(5), the Department will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner/operator within 30 days from the date of the notice. The Department will also, in response to a request or at his/her own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the equivalence of the part 265 closure to a part 264 closure. The Department will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.)

(ii) The Department will determine whether the part 265 closure met 264 closure by removal or decontamination requirements within 90 days of its receipt. If the Department finds that the closure did not meet the applicable part 264 standards, it will provide the owner/operator with a written statement of the reasons why the closure failed to meet part 264 standards. The owner/operator may submit additional information in support of an equivalency demonstration within 30 days after receiving such written statement. The Department will review any additional information submitted and make a final determination within 60 days.

(iii) If the Department determines that the facility did not close in accordance with part 264 closure by removal standards, the facility is subject to postclosure permitting requirements. (12/93)

270.2 Definitions

The following definitions apply to 270 and 124. Terms not defined in this section have the meaning given by those included in 260 Subpart B and by S.C. Hazardous Waste Management Act Section 44-56-10 et al.

"Application" means the standard forms for applying for a permit, including any additions,

revisions or modifications to the forms; or forms approved by the Department, including any approved modifications or revisions. Application also includes the information required by the Department under Sections 270.14 through 270.29 (contents of Part B of the application under these regulations). (12/93)

"Aquifer" means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring. (12/92)

"Closure" means the act of securing a Hazardous Waste Management facility pursuant to the requirements of part 264. (11/90)

"Component" means any constituent part of a unit or any group of constituent parts of a unit which are assembled to perform a specific function (e.g., a pump seal, pump, kiln liner, kiln thermocouple). (11/90; 12/93)

"Corrective Action Management Unit" or "CAMU" means an area within a facility that is designated by the Department under part 264 subpart S, for the purpose of implementing corrective action requirements under 264.101 and RCRA section 3008(h). A CAMU shall only be used for the management of remediation wastes pursuant to implementing such corrective action requirements at the facility. (added 12/93)

"CWA" means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 92-217 and Pub. L. 95-576; 33 U.S.C. 1251 et seq.

"Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground water. (12/92)

"Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on the land or water, and at which hazardous waste will remain after closure. The term disposal facility does not include a corrective action management unit into which remediation wastes are placed. (12/92; 12/93)

"Draft permit" means a document prepared under 124.6 indicating the Department's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in Section 124.5, are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination, as discussed in Section 124.5 is not a "draft permit." A proposed permit is not a draft permit. (12/93)

"Elementary neutralization unit" means a device which:

(a) Is used for neutralizing wastes only because they exhibit the corrosivity characteristic defined in 261.22, or are listed in 261 Subpart D only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in 260.10. (11/90)

"Emergency permit" means a permit issued under these regulations in accordance with Section 270.61.

"Environmental Protection Agency" (EPA) means the United States Environmental Protection Agency. (12/92)

"EPA" means the United States Environmental Protection Agency. (12/92)

"Existing hazardous waste management (HWM) facility" or "existing facility" means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if: (12/92)

(a) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(b) (1) A continuous onsite, physical construction program has begun; or

(2) The owner or operator has entered into contractual obligations which cannot be canceled or modified without substantial loss -- for physical construction of the facility to be completed within a reasonable time.

"Facility mailing list" means the mailing list for a facility maintained by the Department in accordance with 124.10 (11/90; 12/95; 5/96).

"Facility" or "activity" means any HWM facility or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under these regulations. (12/93)

"Federal, State and local approvals or permits necessary to begin physical construction" means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

"Functionally equivalent component" means a component which performs the same function or measurement and which meets or exceeds the performance specifications of another component. (11/90)

"Generator" means any person, by site location, whose act, or process produces hazardous waste identified or listed in part 261. (12/92)

"Groundwater" means water below the land surface in a zone of saturation. (12/92)
"Hazardous waste" means a hazardous waste as defined in 261.3. (12/92)
"Hazardous Waste Management facility (HWM facility)" means all contiguous land, structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them).
"HWM facility" means Hazardous Waste Management facility. (12/92)
"Injection well" means a well into which fluids are being injected. (12/92)
"Interim authorization" means approval by EPA of a State hazardous waste program which has met the requirements of section 3006(g)(2) of RCRA and applicable requirements of part 271, subpart B. (5/96)
"In operation" means a facility which is treating, storing, or disposing of hazardous waste. (12/92)
"Major facility" means any facility or activity classified by the Department.
"Manifest" means the shipping document originated and signed by the generator which contains the information required by subpart B of part 262. (12/92)
"National Pollutant Discharge Elimination System" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA. The term includes an approved program. (12/92)
"NPDES" means National Pollutant Discharge Elimination System. (12/92)
"New HWM facility" means a Hazardous Waste Management facility which began operation or for which construction commenced after November 19, 1980. (12/92)
"Offsite" means any site which is not onsite.
"Onsite" means on the same or geographically contiguous property which may be divided by public or private right(s)-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along, the right(s)-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered onsite property. (12/92)
"Owner or operator" means the owner or operator of any facility or activity subject to regulation under RCRA. (12/92)
"Permit" means an authorization, license, or equivalent control document issued by the Department to implement the requirements of this Part and 124. Permit includes permit by rule (270.60), and emergency permit (270.61). Permit does not include interim status (subpart G of this part), or any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit. (12/93)
"Permit-by-rule" means a provision of these regulations stating that a facility or activity is deemed to have a RCRA permit if it meets the requirements of the provision. (11/90)
"Person" means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. (12/92)
"Physical construction" means excavation, movement of earth, erection of forms or structures, or similar activity to prepare an HWM facility to accept hazardous waste.
"POTW" means publicly owned treatment works. (12/93)
"Publicly owned treatment works (POTW)" means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.
"Remedial Action Plan" (RAP) means a special form of hazardous waste permit that a facility owner or operator may obtain instead of a permit issued under 270.3 through 270.66, to authorize the treatment, storage or disposal of hazardous remediation waste (as defined in 260.10) at a remediation waste management site. (8/00)
"RCRA" means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95- 609 and Pub. L. 96-482, 42 U.S.C. 6901 et seq.) (12/92)
"Schedule of compliance" means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the S.C. Hazardous Waste Management Act and regulations.
"SDWA" means the Safe Drinking Water Act.
"Site" means the land or water area where any facility or activity is physically located or

conducted, including adjacent land used in connection with the facility or activity.

"Storage" means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere. (12/92)

"Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

"Transporter" means a person engaged in the offsite transportation of hazardous waste by air, rail, highway or water. (12/92)

"Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume. (12/92)

"UIC" means the Underground Injection Control program.

"Underground injection" means a well injection. (12/93)

"Underground source of drinking water (USDW)" means an aquifer or its portion:

(a) (1) Which supplies any public water system; or

(2) Which contains a sufficient quantity of groundwater to supply a public water system; and

(i) Currently supplies drinking water for human consumption; or

(ii) Contains fewer than 10,000 mg/l total dissolved solids; and

(b) Which is not an exempted aquifer.

"USDW" means underground source of drinking water. (12/93)

"Wastewater treatment unit" means a device which:

(a) Is part of a wastewater treatment facility which is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and (b) receives and treats or stores an influent wastewater which is a hazardous waste as defined in 261.3, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in 261.3, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in 261.3; and (c) Meets the definition of tank or tank system in 260.10. (11/90, 12/93)

270.3 Considerations under Federal law

The following is a list of Federal laws that may apply to the issuance of permits under these rules. When any of these laws is applicable, its procedures must be followed. When the applicable law requires consideration or adoption of particular permit conditions or requires the denial of a permit, those requirements also must be followed.

(a) The Wild and Scenic Rivers Act. 16 U.S.C. 1273 et seq. Section 7 of the Act and the S.C. Scenic Rivers Act of 1974 as amended Section 51-5-10 through 51-5-170 prohibits the Department from assisting by license or otherwise the construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

(b) The National Historic Preservation Act of 1966. 16 U.S.C. 470 et seq. Section 106 of the Act and implementing regulations (36 CFR part 800) require the Department, before issuing a license, to adopt measures when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with local Historic Preservation Officers and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation. (12/92)

(c) The Endangered Species Act. 16 U.S.C. 1531 et seq. Section 7 of the Act and implementing regulations (50 CFR part 402) and the S.C. Nongame and Endangered Species Act Sections 50-15-10 through 50-15-90 require the Department to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.

(d) The Coastal Zone Management Act. 16 U.S.C. 1451 et seq. Section 307(c) of the Act and implementing regulations (15 CFR part 930) and the S.C. Coastal Tidelands and Wetlands Act Sections 48-39-10 et seq., prohibit the Department from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the Coastal Division of the South Carolina Department of Health and Environmental Control and concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence). (12/92, 11/99)

(e) The Fish and Wildlife Coordination Act. 16 U.S.C. 661 et seq. requires that the Department, before issuing a permit proposing or authorizing the

impoundment (with certain exemptions), diversion, or other control or modification of any body of water, consult with the U.S. Fish and Wildlife Department exercising jurisdiction over wildlife resources to conserve those resources.

270.4 Effect of a permit

(a) (1) Compliance with a permit under these regulations during its term constitutes compliance, for purposes of enforcement, with subtitle C of RCRA and except for those requirements not included in the permit which: (12/93)

(i) Become effective by statute;

(ii) Are promulgated under part 268 of this chapter restricting the placement of hazardous wastes in or on the land; or (12/93)

(iii) Are promulgated under 264 regarding leak detection systems for new and replacement surface impoundment, waste pile, and landfill units, and lateral expansions of surface impoundment, waste pile, and landfill units. The leak detection system requirements include double liners, CQA programs, monitoring, action leakage rates, and response action plans, and will be implemented through the procedures of 270.42 Class 1 permit modifications; or (12/93, 9/98)

(iv) Are promulgated under subparts AA, BB, or CC of part 265 of this chapter limiting air emissions. (9/98)

(2) A permit may be modified, revoked and reissued, or terminated during its term for cuase as set forth in 270.41 and 270.43, or the permit may be modified upon the request of the permittee as set forth in 270.42.

(b) The issuance of a permit under these regulations does not convey any property rights of any sort, or any exclusive privilege. (12/92)

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations. (12/92)

270.5 [Reserved]

270.6 References

(a) When used in part 270 of these Regulations, the following publications are incorporated by reference. These incorporations by reference were approved by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the Federal Register. Copies may be inspected at the Library, U.S. Environmental Protection Agency, 1200 Pennsylvania Ave., NW., (3403T),

Washington, DC 20460, libraryhq@epa.gov; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html (12/92, 6/08)

(b) The following materials are available for purchase from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600 or (800) 553-6847: or for purchase from the Superintendent of Documents, Washington, DC 20402, (202) 512-1800:

(1) ``APTI Course 415: Control of Gaseous Emissions," EPA Publication EPA-450/2-81-005, December 1981, IBR approved for 270.24 and 270.25.

(2) [Reserved].

Subpart B - PERMIT APPLICATION

270.10 General application requirements

(a) Permit application. Any person who is required to have a permit under these regulations (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Department as described in this section and sections 270.70 through 270.73. Persons currently authorized with interim status shall apply for permits when required by the Department. Persons covered by "permits by rule" under section 270.60 need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in section 270.61. Procedures for application, issuance and administration of research, development, and demonstration permits are found exclusively in section 270.65. (12/92)

(b) Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(c) Completeness. The Department shall not issue a permit before receiving a complete application for a permit except for permits by rule, or emergency permits. An application for a permit is complete when the Department receives an application form and any supplemental information which are completed to the Department's satisfaction. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in paragraph (j) of this section. The Department may deny a permit for the active life of a hazardous waste management facility or unit before receiving a complete application for a permit. (12/92)

(d) Information requirements.

(1) All applicants for facility permits under these regulations shall provide information set forth in section 270.13 and applicable sections in sections 270.14 through 270.29 to the Department, using the application form provided by the Department.

(2) All applicants for transporter permits shall provide the information as required on the Department's designated application in accordance with the instructions supplied with such form. Evidence of financial responsibility as required by 263 must accompany the application.

(e) Existing HWM facilities and interim status qualifications.

(1) Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under the South Carolina Hazardous Waste Management Act that render the facility subject to the requirement to have a permit under these regulations must submit part A of their permit application no later than:

(i) Six months after the date of publication of regulations which first require them to comply with the standards set forth in 265 or 266, or

(ii) Thirty days after the date they first become subject to the standards set forth in 265 or 266, whichever first occurs.

(2) [Reserved]

(3) The Department may by compliance order issued under Section 44-56-140 of the South Carolina Hazardous Waste Management Act extend the date by which the owner and operator of an existing hazardous waste management facility must submit Part A of their permit application.

(4) At any time the owner and operator of an existing HWM facility may be required to submit Part B of their permit application. An owner or operator shall be allowed at least six months from the date of request to submit Part B of the application. Any owner or operator of an existing HWM facility may voluntarily submit Part B of the application at any time. Notwithstanding the above, any owner or operator of an existing HWM facility must submit a Part B permit application in accordance with the dates specified in section 270.73. Any owner or operator of a land disposal facility in existence on the effective date of statutory or regulatory amendments under this Act that render the facility subject to the requirement to have a permit under this regulation must submit a Part B application in accordance with the dates specified in section 270.73.

(5) Failure to furnish a requested Part B application on time, or to furnish in full the information required by the Part B application, is grounds for termination of interim status under 124.

(f) New HWM facilities.

(1) No person shall begin physical construction of a new HWM facility without having submitted Part A and Part B of the permit application and having received a finally effective permit under these regulations.

(2) An application for a permit for a new HWM facility (including both Parts A and B) may be filed any time with the Department. All applications must be submitted at least 180 days before physical construction is expected to commence.

(g) Updating permit applications.

(1) If any owner or operator of a HWM facility has filed Part A of a permit application and has not yet filed Part B, the owner or operator shall file an amended Part A application:

(i) With the Department within six months after the promulgation of revised regulations under 261 listing or identifying additional hazardous wastes, if the facility is treating, storing, or disposing of any of those newly listed or identified wastes. (12/93)

(ii) [Reserved]

(iii) As necessary to comply with provisions of 270.72 for changes during interim status. Revised Part A applications necessary to comply with the provisions of section 270.72 shall be filed with the Department. (12/93)

(2) The owner or operator of a facility who fails to comply with the updating requirements of paragraph (g)(1) of this section does not receive interim status as to the wastes not covered by duly filed Part A applications.

(h) Reapplications.

(1) Any HWM facility with an effective permit shall submit a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Department. The Department shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

(2) Any transporter with an effective permit shall submit a new application at least 90 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Department.

(i) Recordkeeping. Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under sections 270.10(d), 270.13, 270.14

through 270.21 for a period of at least 3 years from the date the application is signed.

(j) Exposure information.

(1) After August 8, 1985, any Part B permit application submitted by an owner or operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address: (12/93)

(i) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(ii) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (j)(1)(i) of this section; and (12/93)

(iii) The potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who have already submitted a Part B application must submit the exposure information required in paragraph (j)(1) of this section. (12/93)

(k) The Department may require a permittee or an applicant to submit information in order to establish permit conditions under 270.32(b)(2). (11/90, 12/92, 6/95)

(l) If the Department concludes, based on one or more of the factors listed in paragraph *(l)*(1) of this section that compliance with the standards of 40 CFR part 63, subpart EEE alone may not be protective of human health or the environment, the Department shall require the additional information or assessment(s) necessary to determine whether additional controls are necessary to ensure protection of human health and the environment. This includes information necessary to evaluate the potential risk to human health and/or the environment resulting from both direct and indirect exposure pathways. The Department may also require a permittee or applicant to provide information necessary to determine whether such an assessment(s) should be required.

(1) The Department shall base the evaluation of whether compliance with the standards of 40 CFR part 63, subpart EEE alone is protective of human health or the environment on factors relevant to the potential risk from a hazardous waste combustion unit, including, as appropriate, any of the following factors:

(i) Particular site-specific considerations such as proximity to receptors (such as schools, hospitals, nursing homes, day care centers, parks, community activity centers, or other potentially sensitive receptors), unique dispersion patterns, etc.;

(ii) Identities and quantities of emissions of persistent, bioaccumulative or toxic pollutants considering enforceable controls in place to limit those pollutants;

(iii) Identities and quantities of nondioxin products of incomplete combustion most likely to be emitted and to pose significant risk based on known toxicities (confirmation of which should be made through emissions testing);

(iv) Identities and quantities of other off-site sources of pollutants in proximity of the facility that significantly influence interpretation of a facility specific risk assessment;

(v) Presence of significant ecological considerations, such as the proximity of a particularly sensitive ecological area;

(vi) Volume and types of wastes, for example wastes containing highly toxic constituents;

(vii) Other on-site sources of hazardous air pollutants that significantly influence interpretation of the risk posed by the operation of the source in question;

(viii) Adequacy of any previously conducted risk assessment, given any subsequent changes in conditions likely to affect risk; and

(ix) Such other factors as may be appropriate.

(2) [Reserved] (6/08)

(m) A copy of a site specific inspection checklist shall be prepared by the applicant. The checklist shall be approved by the Department for use by the Department in conducting compliance inspections and shall include all applicable requirements of 261 through 270. An amended checklist shall be submitted to the Department for approval each time a permit modification is requested. The amended checklist shall accompany the permit modification request. (5/10)

270.11 Signatories to permit applications and reports

(a) Applications. All permit applications shall be signed as follows:

(1) For a corporation: By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business

function, or any other person who performs similar policy or decision making functions for the corporation, or (ii) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. Note: The Department does not require specific assignments or delegations of authority to responsible corporate officers identified in 270.11(a)(1)(i). The Department will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Department to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under 270.11(a)(1)(ii) rather than to specific individuals. (12/92)

(2) For a partnership or sole proprietorship; by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:

(i) The chief executive officer of the agency, or

(ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

(b) Reports. All reports required by permits and other information requested by the Department shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or a position having responsibility for overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

(3) The written authorization is submitted to the Department.

(c) Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Department prior to or together with any reports, information, or applications to be signed by an authorized representative.

(d) (1) Certification. Any person signing a document under paragraph (a) or (b) of this section must make the following certification: (8/00)
"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to be the best of my knowledge and belief, true, accurate and, complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

(2) For remedial action plans (RAPs) under subpart H of this part, if the operator certifies according to paragraph (d)(1) of this section, then the owner may choose to make the following certification instead of the certification in paragraph (d)(1)of this section: (8/00)
"Based on my knowledge of the conditions of the property described in the RAP and my inquiry of the person or persons who manage the system referenced in the operator's certification, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (8/00)

270.12 Confidentiality of information

(a) In accordance with the Hazardous Waste Management Act Section 44-56-80 and the Freedom of Information Act Section 30-4-40 certain information submitted to the Department pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, the Department may make the information available to the public

without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in South Carolina 30-4-10 et seq. and 40 CFR Part 2 (Public Information). (12/92)

(b) Claims of confidentiality for the name and address of any permit applicant or permittee will be denied.

270.13 Contents of Part A of the permit application

Part A of the application under these regulations shall include the following information: (12/93)

(a) The activities conducted by the applicant which require it to obtain a permit under these regulations. (12/93)

(b) Name, mailing address, and location, including latitude and longitude of the facility for which the application is submitted.

(c) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(d) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(e) The name, address, and phone number of the owner of the facility.

(f) Whether the facility is located on Indian lands.

(g) An indication of whether the facility is new or existing and whether it is a first or revised application.

(h) For existing facilities,

(1) a scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas; and

(2) photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and sites of future treatment, storage, and disposal areas.

(i) A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.

(j) A specification of the hazardous wastes listed or designated under 261 to be treated, stored, or disposed of at the facility, an estimate of the quantity of such wastes to be treated, stored, or disposed annually, and a general description of the processes to be used for such wastes. (11/90)

(k) A listing of all permits or construction approvals received or applied for under any of the following programs:

(1) Hazardous Waste Management program under these regulations. (12/93)

(2) UIC program under the SDWA.

(3) NPDES program under the CWA.

(4) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(5) Nonattainment program under the Clean Air Act.

(6) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(7) Ocean dumping permits under the Marine Protection Research and Sanctuaries Act.

(8) Dredge or fill permits under section 404 of the CWA.

(9) Other relevant environmental permits, including State permits.

(l) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within 1/4 mile of the facility property boundary. (12/93)

(m) A brief description of the nature of the business.

(n) For hazardous debris, a description of the debris category(ies) and contaminant category(ies) to be treated, stored, or disposed of at the facility. (12/93)

270.14 Contents of Part B: General requirements

(a) Part B of the permit application consists of the general information requirements of this section, and the specific information requirements in 270.14 through 270.29 applicable to the facility. The part B information requirements presented in 270.14 through 270.29 reflect the standards promulgated in 264. These information requirements are necessary in order for the Department to determine compliance with the part 264 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in part B cannot be provided to the extent required, the Department may make allowance for submission of such information on a case-by-case basis. Information required in part B shall be submitted to the Department and signed in accordance with requirements in 270.11. Certain technical data, such as design drawings and specification, and engineering studies shall be certified by a qualified Professional Engineer. For post-closure permits, only the information specified

in 270.28 is required in part B of the permit application. (12/92; 8/00, 6/08)

(b) General information requirements. The following information is required for all HWM facilities, except as 264.1 provides otherwise:

(1) A general description of the facility.

(2) Chemical and physical analyses of the hazardous waste and hazardous debris to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with 264. (12/93)

(3) A copy of the waste analysis plan required by section 264.13(b) and, if applicable section 264.13(c).

(4) A description of the security procedures and equipment required by 264.14, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(5) A copy of the general inspection schedule required by 264.15(b). Include, where applicable, as part of the inspection schedule, specific requirements in 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.602, 264.1033, 264.1052, 264.1053, 264,1058, 264.1084, 264.1085, 264.1086, and 264.1088. (11/90; 12/92; 12/93, 9/98, 11/99)

(6) A justification of any request for a waiver(s) of the preparedness and prevention requirements of 264 subpart C.

(7) A copy of the contingency plan required by part 264, subpart D. Note: Include, where applicable, as part of the contingency plan, specific requirements in 264.227, 264.255, and 264.200. (6/95, 8/00)

(8) A description of procedures, structures, or equipment used at the facility to:

(i) Prevent hazards in unloading operations (for example, ramps, special forklifts);

(ii) Prevent run-off from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(iii) Prevent contamination of water supplies;

(iv) Mitigate effects of equipment failure and power outages;

(v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing); and

(vi) Prevent releases to atmosphere. (12/92)

(9) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with 264.17 including documentation demonstrating compliance with 264.17(c).

(10) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(11) Facility location information;

(i) In order to determine the applicability of the seismic standard [264.18(a)] the owner or operator of a new facility must identify the political jurisdiction (e.g., county, township, or election district) in which the facility is proposed to be located.

[Comment: If the county or election district is not listed in appendix VI of 264, no further information is required to demonstrate compliance with 264.18(a).] (12/93)

(ii) If the facility is proposed to be located in an area listed in appendix VI of 264, the owner or operator shall demonstrate compliance with the seismic standard. This demonstration may be made using either published geologic data or data obtained from field investigations carried out by the applicant. The information provided must be of such quality to be acceptable to geologists experienced in identifying and evaluating seismic activity. The information submitted must show that either:

(A) No faults which have had displacement in Holocene time are present, or no lineations which suggest the presence of a fault (which have displacement in Holocene time) within 3,000 feet of a facility are present, based on data from:

(1) Published geologic studies,

(2) Aerial reconnaissance of the area within a five-mile radius from the facility.

(3) An analysis of aerial photographs covering a 3,000 foot radius of the facility, and

(4) If needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility, or

(B) If faults (to include lineations) which have had displacement in Holocene time are present within 3,000 feet of a facility, no faults pass within 200 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than

200 feet from portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document with supporting maps and other analyses, the location of faults found.

Comment: The federal Guidance Manual for the Location Standards provides greater detail on the content of each type of seismic investigation and the appropriate conditions under which each approach or a combination of approaches would be used. (9/98)

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where a FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

[Comment: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be. (12/92)]

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as a consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (b)(11)(iv) (A) and (B), a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(1) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(2) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under 270, 124 and 264 through 266. (11/90)

(3) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

(4) The potential for accidental discharges of the waste during movement.

(v) Existing facilities not in compliance with 264.18(b) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(12) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with 264.16. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in 264.16(a)(3).

(13) A copy of the closure plan and, where applicable, the postclosure plan required by 264.112, 264.118, and 264.197. Include, where applicable, as part of the plans, specific requirements in 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, and 264.603. (11/90)

(14) For hazardous waste disposal units that have been closed, documentation that notices required under 264.119 have been filed.

(15) The most recent closure cost estimate for the facility prepared in accordance with 264.142 and a copy of the documentation required to demonstrate financial assurance under 264.143. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(16) Where applicable, the most recent postclosure cost estimate for the facility prepared in accordance with 264.144 plus a copy of the documentation required to demonstrate financial assurance under 264.145. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(17) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of 264.147. For a new facility, documentation showing the amount of insurance meeting the specification of 264.147(a) and, if applicable, 264.147(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in 264.147(c).

(18) Where appropriate, proof of coverage by a state financial mechanism in compliance with 264.149 or 264.150. (11/90)

(19) A topographic map showing a distance of 1000 feet around the facility at a scale of 2.5 centimeters (1 inch) equal to not more than 61.0 meters (200 feet). Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of 1.5 meters (5 feet), if relief is greater than 6.1 meters (20 feet), or an interval of 0.6 meters (2 feet), if relief is less than 6.1 meters (20 feet). Owners and operators of Hazardous Waste Management facilities located in mountainous areas should use large contour intervals to adequately show topographic profiles of facilities. The map shall clearly show the following: (11/90, 12/92)

(i) Map scale and date.

(ii) 100-year floodplain area.

(iii) Surface waters including intermittent streams.

(iv) Surrounding land uses (residential, commercial, agricultural, recreational).

(v) A wind rose (i.e., prevailing wind speed and direction).

(vi) Orientation of the map (north arrow).

(vii) Legal boundaries of the Hazardous Waste Management facility site.

(viii) Access control (fences, gates).

(ix) Injection and withdrawal wells both onsite and offsite.

(x) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, run-off control systems, access and internal

roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.). (12/93)

(xii) Location of operational units within the
HWM facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).
Note: For large HWM facilities the Department will allow the use of other scales on a case-by-case basis. (Note 12/93)

(20) Applicants may be required to submit such information as may be necessary to enable the Department to carry out its duties under other State or Federal laws as required in 270.3 of this part. (6/89, 9/98)

(21) For land disposal facilities, if a case-by-case extension has been approved under 268.5 or a petition has been approved under 268.6, a copy of the notice of approval for the extension or petition is required.(11/90, 9/98)

(22) A summary of the pre-application meeting, along with a list of attendees and their addresses, and copies of any written comments or materials submitted at the meeting, as required under 124.31(c). (9/98)

(23) A complete corporate description such as a Security and Exchange Commission Annual Report, or its equivalent. (6/89, 9/98)

(c) Additional information requirements. The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in 264.90(b). (11/90; 21/93)

(1) A summary of the groundwater monitoring data obtained during the interim status period under sections 265.90 through 265.94, where applicable.

(2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including groundwater flow direction and rate, and the basis for such identification (i.e., the information obtained from hydrogeologic investigations of the facility area).

(3) On the topographic map required under paragraph (b)(19) of this section, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under 264.95, the proposed location of groundwater monitoring wells as required under 264.97, and, to the extent possible, the information required in paragraph (c)(2) of this section.

(4) A description of any plume of contamination that has entered the groundwater

from a regulated unit at the time that the application was submitted that: (12/93)

(i) Delineates the extent of the plume on the topographic map required under paragraph (b)(19) of this section;

(ii) Identifies the concentration of each appendix IX, of part 264 of this chapter, constituent throughout the plume or identifies the maximum concentrations of each appendix IX constituent in the plume. (11/90; 12/92; 12/93)

(5) Detailed plans and an engineering report describing the proposed groundwater monitoring program to be implemented to meet the requirements of 264.97.

(6) If the presence of hazardous constituents has not been detected in the groundwater at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of 264.98. This submission must address the following items specified under 264.98:

(i) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the groundwater;

(ii) A proposed groundwater monitoring system;

(iii) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(iv) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(7) If the presence of hazardous constituents has been detected in the groundwater at the point of compliance at the time of the permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of 264.99. Except as provided in 264.98(g)(5), the owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of 264.100, unless the owner or operator obtains written authorization in advance from the Department to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with 264.99, the owner or operator must address the following items: (6/95)

(i) A description of the wastes previously handled at the facility;

(ii) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;

(iii) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with 264.97 and 264.99;

(iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in 264.94(a), including a justification for establishing any alternate concentration limits;

(v) Detailed plans and an engineering report describing the proposed groundwater monitoring system, in accordance with the requirements of 264.97; and

(vi) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating groundwater monitoring data.

(8) If hazardous constituents have been measured in the groundwater which exceed the concentration limits established under 264.94 Table 1, or if groundwater monitoring conducted at the time of permit application under 265.90 through 265.94 at the waste boundary indicates the presence of hazardous constituents from the facility in groundwater over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of 264.100. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Department that alternate concentration limits will protect human health and the environment after considering the criteria listed in 264.94(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of 264.99 and paragraph (c)(6) of this section. To demonstrate compliance with 264.100, the owner or operator must address, at a minimum, the following items:

(i) A characterization of the contaminated groundwater, including concentrations of hazardous constituents;

(ii) The concentration limit for each hazardous constituent found in the groundwater as set forth in 264.94;

(iii) Detailed plans and an engineering report describing the corrective action to be taken; and

(iv) A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action. (12/92)

(v) The permit may contain a schedule for submittal of the information required in paragraphs (c)(8) (iii) and (iv) provided the owner or operator obtains written authorization

from the Department prior to submittal of the complete permit application.

(d) Information requirements for solid waste management units. (11/90)

(1) The following information is required for each solid waste management unit at a facility seeking a permit:

(i) The location of the unit on the topographic map required under paragraph (b)(19) of this section.

(ii) Designation of type of unit.

(iii) General dimensions and structural description (supply any available drawings).

(iv) When the unit was operated.

(v) Specification of all wastes that have been managed at the unit, to the extent available.

(2) The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

(3) The owner/operator must conduct and provide the results of sampling and analysis of groundwater, land surface, and subsurface strata, surface water, or air, which may include the installation of wells, where the Department ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

270.15 Specific Part B information requirements for containers

Except as otherwise provided in 264.170, owners or operators of facilities that store containers of hazardous waste must provide the following additional information: (12/92)

(a) A description of the containment system to demonstrate compliance with 264.175. Show at least the following:

(1) Basic design parameters, dimensions, and materials of construction.

(2) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(3) Capacity of the containment system relative to the number and volume of containers to be stored.

(4) Provisions for preventing or managing run-on.

(5) How accumulated liquids can be analyzed and removed to prevent overflow.

(b) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with 264.175(c), including:

(1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

(2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(c) Sketches, drawings, or data demonstrating compliance with 264.176 (location of buffer zone and containers holding ignitable or reactive wastes) and 264.177(c) (location of incompatible wastes), where applicable.

(d) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with 264.177 (a) and (b), and 264.17 (b) and (c).

(e) Information on air emission control equipment as required in 270.27. (9/98)

270.16 Specific Part B information requirements for tank systems

(11/90)

Except as otherwise provided in 264.190, owners and operators of facilities that use tanks to store or treat hazardous waste must provide the following additional information:

(a) A written assessment that is reviewed and certified by a qualified Professional Engineer as to the structural integrity and suitability for handling hazardous waste of each tank system, as required under 264.191 and 264.192; (11/90, 6/08)

(b) Dimensions and capacity of each tank;

(c) Description of feed systems, safety cutoff, bypass systems, and pressure controls (e.g., vents);

(d) A diagram of piping, instrumentation, and process flow for each tank system;

(e) A description of materials and equipment used to provide external corrosion protection, as required under 264.192(a)(3)(ii);

(f) For new tank systems, a detailed description of how the tank system(s) will be installed in compliance with 264.192 (b), (c), (d), and (e);

(g) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet
the requirements of 264.193 (a), (b), (c), (d), (e), and (f);

(h) For tank systems for which a variance from the requirements of 264.193 is sought (as provided by section 264.193(g)):

(1) Detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in

conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the groundwater or surface water during the life of the facility, or

(2) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.

(i) Description of controls and practices to prevent spills and overflows, as required under 264.194(b); and

(j) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of 264.198 and 264.199.

(k) Information on air emission control equipment as required in 270.27. (9/98)

270.17 Specific Part B information requirements for surface impoundments

Except as otherwise provided in 264.1, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each surface impoundment;

(b) Detailed plans and an engineering report describing how the surface impoundment is designed and is or will be designed, constructed, operated, and maintained to meet the requirements of 264.19, 264.221, 264.222, and 264.223, addressing following items: (12/93)

(1) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by 264.221(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time; (11/90)

(2) The double liner and leak (leachate) detection, collection, and removal system, if the surface impoundment must meet the requirements of section 264.221(c) of this chapter. If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by section 264.221(d), (e), or (f) of this chapter, submit appropriate information; (12/93)

(3) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system; (12/93)

(4) The construction quality assurance (CQA) plan if required under section 264.19 of this chapter; (12/93)

(5) Proposed action leakage rate, with rationale, if required under 264.222 of this chapter, and response action plan, if required under section 264.223 of this chapter; (12/93)

(6) Prevention of overtopping; and (moved 12/93)

(7) Structural integrity of dikes; (moved 12/93)

(c) A description of how each surface impoundment, including the double liner system, leak detection system, cover system and appurtenances for control of overtopping, will be inspected in order to meet the requirements of 264.226(a), (b), and (d). This information must be included in the inspection plan submitted under Section 270.14(b)(5); (12/93)

(d) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under 264.226(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(e) A description of the procedure to be used for removing a surface impoundment from service, as required under 264.227(b) and (c). This information should be included in the contingency plan submitted under section 270.14(b)(7);

(f) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under 264.228(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed plans and an engineering report describing how 264.228(a)(2) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the postclosure plan submitted under section 270.14(b)(13); (12/92)

(g) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how 264.229 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials will be placed in a surface impoundment, an explanation of how 264.230 will be complied with.

(i) A waste management plan for Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how the surface impoundment is or will be designed, constructed, operated, and

maintained to meet the requirements of 264.231. This submission must address the following items as specified in 264.231:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials; (12/92)

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(j) Information on air emission control equipment as required in 270.27. (9/98)

270.18 Specific Part B information requirements for waste piles

Except as otherwise provided in 264.1, owners and operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed in each waste pile;

(b) If an exemption is sought to 264.251 and subpart F of part 264 as provided by 264.250(c) or 264.90(b)(2), an explanation of how the standards of 264.250(c) will be complied with or detailed plans and an engineering report describing how the requirements of section 264.90(b)(2) will be met. (12/93)

(c) Detailed plans and an engineering report describing how the waste pile is designed and is or will be constructed, operated, and maintained to meet the requirements of 264.19, 264.251, 264.252, and 264.253, addressing the following items: (12/93)

(1) (i) The liner system (except for an existing portion of a waste pile), if the waste pile must meet the requirements of 264.251(a). If an exemption from the requirement for a liner is sought as provided by 264.251(b), the owner or operator must submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time; (12/93)

(ii) The double liner and leak (leachate) detection, collection, and removal system, if the waste pile must meet the requirements of section 264.251(c). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by section 264.251(d), (e), or (f), submit appropriate information; (12/93)

(iii) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system; (12/93)

(iv) The construction quality assurance (CQA) plan if required under section 264.19; (12/93)

(v) Proposed action leakage rate, with rationale, if required under section 264.252, and response action plan, if required under section 264.253; (12/93)

(2) Control of run-on;

(3) Control of run-off;

(4) Management of collection and holding units associated with run-on and run-off control systems; and

(5) Control of wind dispersal of particulate matter, where applicable;

(d) A description of how each waste pile, including the double liner system, leachate collection and removal system, leak detection system, cover system, and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of 264.254(a), (b), and (c). This information must be included in the inspection plan submitted under section 270.14(b)(5); (12/93)

(e) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;

(f) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of 264.256 will be complied with;

(g) If incompatible wastes or incompatible wastes, and materials will be placed in a waste pile, an explanation of how 264.257 will be complied with;

(h) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under 264.258(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how 264.310 (a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the postclosure plan submitted under section 270.14(b)(13). (11/90; 12/92; 12/93)

(i) A waste management plan for Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a waste pile that is not enclosed (as defined in 264.250(c)) is or will be

designed, constructed, operated, and maintained to meet the requirements of 264.259. This submission must address the following items as specified in 264.259:

(1) The volume, physical, and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials (12/92);

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

270.19 Specific Part B information requirements for incinerators

Except as 264.340 and 270.19(e) provide otherwise, owners and operators of facilities that incinerate hazardous waste must fulfill the requirements of (a), (b), or (c). (12/93, 6/03)

(a) When seeking an exemption under 264.340 (b) or (c) (ignitable, corrosive or reactive wastes only): (12/93)

(1) Documentation that the waste is listed as a hazardous waste in 261 subpart D solely because it is ignitable (Hazard Code I) or corrosive (Hazard Code C) or both; (5/96)

(2) Documentation that the waste is listed as a hazardous waste in 261 subpart D solely because it is reactive (Hazard Code R) for characteristics other than those listed in 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under 261 subpart C; or

(4) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in 261.23(a) (1), (2), (3), (6), (7), or (8), and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(b) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with section 270.62; or

(c) In lieu of a trial burn, the applicant may submit the following information:

(1) An analysis of each waste or mixture of wastes to be burned including:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) Viscosity (if applicable), or description of physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in 261, appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 261, appendix VIII, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11 and 270.6, or other equivalent. (12/93)

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW- 846, as incorporated by reference in 260.11 and 270.6. (12/92; 12/93)

(v) A quantification of those hazardous constituents in the waste which may be designated as POHCs based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in 264.343. (12/92)

(2) A detailed engineering description of the incinerator, including:

(i) Manufacturer's name and model number of incinerator.

(ii) Type of incinerator.

(iii) Linear dimension of incinerator unit including cross sectional area of combustion chamber.

(iv) Description of auxiliary fuel system (type/feed).

(v) Capacity of prime mover.

(vi) Description of automatic waste feed cutoff system(s).

(vii) Stack gas monitoring and pollution control monitoring system.

(viii) Nozzle and burner design.

(ix) Construction materials.

(x) Location and description of temperature, pressure, and flow indicating devices and control devices.

(3) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items

listed in paragraph (c)(1) of this section. This analysis should specify the POHCs which the applicant has identified in the waste for which a permit is sought, and any differences from the POHCs in the waste for which burn data are provided.

(4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(5) A description of the results submitted from any previously conducted trial burn(s) including:

(i) Sampling and analysis techniques used to calculate performance standards in 264.343,

(ii) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement),

(6) The expected incinerator operation information to demonstrate compliance with 264.343 and 264.345 including:

(i) Expected carbon monoxide (CO) level in the stack exhaust gas.

(ii) Waste feed rate.

(iii) Combustion zone temperature.

(iv) Indication of combustion gas velocity.

(v) Expected stack gas volume, flow rate, and temperature.

(vi) Computed residence time for waste in the combustion zone.

(vii) Expected hydrochloric acid removal efficiency.

(viii) Expected fugitive emissions and their control procedures.

(ix) Proposed waste feed cut-off limits based on the identified significant operating parameters.

(7) Such supplemental information as the Department finds necessary to achieve the purposes of this paragraph.

(8) Waste analysis data, including that submitted in paragraph (c)(1) of this section, sufficient to allow the Department to specify as permit Principal Organic Hazardous Constituents (permit POHCs) those constituents for which destruction and removal efficiencies will be required. (12/93)

(d) The Department shall approve a permit application without a trial burn if he finds that: (12/93)

(1) The wastes are sufficiently similar; and

(2) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under 264.345) operating conditions that will ensure that the performance standards in section 264.343 will be met by the incinerator.

(e) When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, Subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance) under 63.1207(j) and 63.1210(b) documenting compliance with all applicable requirements of Part 63, subpart EEE, the requirements do not apply, except those provisions the Department determines are necessary to ensure compliance with 264.345(a) and 264.345(c) if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Department may apply the provisions, on a case-by-case basis, for purposes of information collection in accordance with 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3). (6/03, 6/04, 6/08)

270.20 Specific Part B information requirements for land treatment facilities

Except as otherwise provided in 264.1, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(a) A description of plans to conduct a treatment demonstration as required under 264.272. The description must include the following information;

(1) The wastes for which the demonstration will be made and the potential hazardous constituents in the waste;

(2) The data sources to be used to make the demonstration (e.g., literature, laboratory data, field data, or operating data);

(3) Any specific laboratory or field test that will be conducted, including:

(i) The type of test (e.g., column leaching, degradation);

(ii) Materials and methods, including analytical procedures;

(iii) Expected time for completion;

(iv) Characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices.

(b) A description of a land treatment program, as required under 264 Subpart M. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

(1) The wastes to be land treated;

(2) Design measures and operating practices necessary to maximize treatment in accordance with 264.273(a) including:

(i) Waste application method and rate;

(ii) Measures to control soil pH;

(iii) Enhancement of microbial or chemical reactions;

(iv) Control of moisture content;

(3) Provisions for unsaturated zone monitoring, including:

(i) Sampling equipment, procedures, and frequency;

(ii) Procedures for selecting sampling locations;

(iii) Analytical procedures;

(iv) Chain of custody control;

(v) Procedures for establishing background values;

(vi) Statistical methods for interpreting results;

(vii) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in 264.278(a);

(4) A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to 264.13;

(5) The proposed dimensions of the treatment zone;

(c) A description of how the unit is or will be designed, constructed, operated, and maintained in order to meet the requirements of 264.273. This submission must address the following items:

(1) Control of run-on;

(2) Collection and control of run-off;

(3) Minimization of run-off of hazardous constituents from the treatment zone;

(4) Management of collection and holding facilities associated with run-on and run-off control systems;

(5) Periodic inspection of the unit. This information should be included in the inspection plan submitted under 270.14(b)(5);

(6) Control of wind dispersal of particulate matter, if applicable;

(d) If food-chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under 264.276(a) will be conducted including:

(1) Characteristics of the food-chain crop for which the demonstration will be made.

(2) Characteristics of the waste, treatment zone, and waste application method and rate to be used in the demonstration;

(3) Procedures for crop growth, sample collection, sample analysis, and data evaluation;

(4) Characteristics of the comparison crop including the location and conditions under which it was or will be grown;

(e) If food-chain crops are to be grown, and cadmium is present in the land treated waste, a description of how the requirements of 264.276(b) will be complied with;

(f) A description of the vegetative cover to be applied to closed portions of the facility, and a plan for maintaining such cover during the postclosure care period, as required under 264.280(a)(8) and 264.280(c)(2). This information should be included in the closure plan and, where applicable, the postclosure care plan submitted under 270.14(b)(13);

(g) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of 264.281 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how 264.282 will be complied with.

(i) A waste management plan for Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of 264.283. This submission must address the following items as specified in 264.283: (12/93)

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

270.21 Specific Part B information requirements for landfills

Except as otherwise provided in 264.1, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;

(b) Detailed plans and an engineering report describing how the landfill is designed and is or will be designed, constructed, operated, and maintained to meet the requirements of 264.19, 264.301, 264.302, and 264.303, addressing the following items: (12/93)

(1) (i) The liner system (except for an existing portion of a landfill), if the landfill must meet the requirements of 264.301(a). If an exemption from the requirement for a liner is sought as provided by 264.301(b), submit detailed plans, and engineering and hydrogeological reports, as appropriate, describing alternate designs and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the groundwater or surface water at any future time; (11/90; 12/93)

(ii) The double liner and leak (leachate) detection, collection, and removal system, if the landfill must meet the requirements of section 264.301(c). If an exemption from the requirements for double liners and a leak detection, collection, and removal system or alternative design is sought as provided by section 264.301(d), (e), or (f) of this chapter, submit appropriate information; (12/93)

(iii) If the leak detection system is located in a saturated zone, submit detailed plans and an engineering report explaining the leak detection system design and operation, and the location of the saturated zone in relation to the leak detection system; (12/93)

(iv) The construction quality assurance (CQA) plan if required under section 264.19; (12/93)

(v) Proposed action leakage rate, with rationale, if required under section 264.302 of this chapter, and response action plan, if required under section 264.303 of this chapter; (12/93)

(2) Control of run-on;

(3) Control of run-off;

(4) Management of collection and holding facilities associated with run-on and run-off control systems; and

(5) Control of wind dispersal of particulate matter, where applicable;

(c) A description of how each landfill, including the double liner system, leachate collection and removal system leak detection system, cover system, and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of 264.303(a), (b), and (c) of this chapter. This information must be included in the inspection plan submitted under 270.14(b)(5); (8/00)

(d) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of 264.303 (a) and (b). This information should be included in the inspection plan submitted under 270.14(b)(5). (12/93)

(e) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with 264.310(a), and a description of how each landfill will be maintained and monitored after closure in accordance with 264.310(b). This information should be included in the closure and postclosure plans submitted under 270.14(b)(13). (12/92)

(f) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of 264.312 will be complied with; (12/93)

(g) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how 264.313 will be complied with;

(h) [Reserved]

(i) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of 264.315 or 264.316, as applicable, will be complied with (12/92).

(j) A waste management plan for Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of 264.317. This submission must address the following items as specified in section 264.317: (12/93)

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuating properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(k) An estimate with justifying documentation will specify how long the facility shall be expected to meet the desired minimum technology requirements after closure; (6/89)

270.22 Specific Part B information requirements for boilers and industrial furnaces burning hazardous waste

(12/94)

When an owner or operator of a cement or lightweight aggregate kiln, solid fuel boiler, liquid

fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, Subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance) under 63.1207(j) and 63.1210(d) documenting compliance with all applicable requirements of part 63, Subpart EEE), the requirements of this section do not apply. The requirements of this section do apply, however, if the Department determines certain provisions are necessary to ensure compliance with 266.102(e)(1) and 266.102(e)(2)(iii) if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events or if you are an area source and elect to comply with the 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and nonmercury metals; or the Department determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3). (6/03, 6/04, 6/08)

(a) Trial Burns

(1) General. Except as provided below, owners and operators that are subject to the standards to control organic emissions provided by 266.104, standards to control particulate matter provided by 266.105, standards to control metals emissions provided by 266.106, or standards to control hydrogen chloride or chlorine gas emissions provided by 266.107 must conduct a trial burn to demonstrate conformance with those standards and must submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with 270.66.

(i) A trial burn to demonstrate conformance with a particular emission standard may be waived under provisions of 266.104 through 266.107 and paragraphs (a)(2) through (a)(5) of this section; and

(ii) The owner or operator may submit data in lieu of a trial burn, as prescribed in paragraph (a)(6) of this section.

(2) Waiver of trial burn for DRE

(i) Boilers operated under special operating requirements. When seeking to be permitted under 266.104(a)(4) and 266.110 that automatically waive the DRE trial burn, the owner or operator of a boiler must submit documentation that the boiler operates under the special operating requirements provided by 266.110.

(ii) Boilers and industrial furnaces burning low risk waste. When seeking to be permitted under the provisions for low risk waste provided by 266.104(a)(5) and 266.109(a) that waive the DRE trial burn, the owner or operator must submit:

(A) Documentation that the device is operated in conformance with the requirements of 266.109(a)(1).

(B) Results of analyses of each waste to be burned, documenting the concentrations of nonmetal compounds listed in appendix VIII of 261, except for those constituents that would reasonably not be expected to be in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion explained. The analysis must rely on analytical techniques specified in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (incorporated by reference, see 260.11).

(C) Documentation of hazardous waste firing rates and calculations of reasonable, worst-case emission rates of each constituent identified in paragraph (a)(2)(ii)(B) of this section using procedures provided by 266.109(a)(2)(ii).

(D) Results of emissions dispersion modeling for emissions identified in paragraphs (a)(2)(ii)(C) of this section using modeling procedures prescribed by 266.106(h). The Department will review the emission modeling conducted by the applicant to determine conformance with these procedures. The Department will either approve the modeling or determine that alternate or supplementary modeling is appropriate.

(E) Documentation that the maximum annual average ground level concentration of each constituent identified in paragraph (a)(2)(ii)(B) of this section quantified in conformance with paragraph (a)(2)(ii)(D) of this section does not exceed the allowable ambient level established in appendices IV or V of part 266. The acceptable ambient concentration for emitted constituents for which a specific Reference Air Concentration has not been established in appendix IV or Risk-Specific Dose has not been established in appendix V is 0.1 micrograms per cubic meter, as noted in the footnote to appendix IV.

(3) Waiver of trial burn for metals. When seeking to be permitted under the Tier I (or adjusted Tier I) metals feed rate screening limits provided by 266.106(b) and (e) that control metals emissions

without requiring a trial burn, the owner or operator must submit:

(i) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;

(ii) Documentation of the concentration of each metal controlled by 266.106(b) or (e) in the hazardous waste, other fuels, and industrial furnace feedstocks, and calculations of the total feed rate of each metal;

(iii) Documentation of how the applicant will ensure that the Tier I feed rate screening limits provided by 266.106(b) or (e) will not be exceeded during the averaging period provided by that paragraph;

(iv) Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type, and land use as provided by 266.106(b)(3) through (b)(5);

(v) Documentation of compliance with the provisions of 266.106(b)(6), if applicable, for facilities with multiple stacks;

(vi) Documentation that the facility does not fail the criteria provided by 266.106(b)(7) for eligibility to comply with the screening limits; and

(vii) Proposed sampling and metals analysis plan for the hazardous waste, other fuels, and industrial furnace feed stocks.

(4) Waiver of trial burn for particulate matter. When seeking to be permitted under the low risk waste provisions of 266.109(b) which waives the particulate standard (and trial burn to demonstrate conformance with the particulate standard), applicants must submit documentation supporting conformance with paragraphs (a)(2)(ii) and (a)(3) of this section.

(5) Waiver of trial burn for HCl and Cl_2. When seeking to be permitted under the Tier I (or adjusted Tier I) feed rate screening limits for total chloride and chlorine provided by 266.107(b)(1) and (e) of this chapter that control emissions of hydrogen chloride (HCl) and chlorine gas (Cl_2) without requiring a trial burn, the owner or operator must submit:

(i) Documentation of the feed rate of hazardous waste, other fuels, and industrial furnace feed stocks;

(ii) Documentation of the levels of total chloride and chlorine in the hazardous waste, other fuels, and industrial furnace feedstocks, and calculations of the total feed rate of total chloride and chlorine;

(iii) Documentation of how the applicant will ensure that the Tier I (or adjusted Tier I) feed rate screening limits provided by 266.107(b)(1) or (e) will not be exceeded during the averaging period provided by that paragraph;

(iv) Documentation to support the determination of the terrain-adjusted effective stack height, good engineering practice stack height, terrain type, and land use as provided by 266.107(b)(3);

(v) Documentation of compliance with the provisions of 266.107(b)(4), if applicable, for facilities with multiple stacks;

(vi) Documentation that the facility does not fail the criteria provided by 266.107(b)(3) for eligibility to comply with the screening limits; and

(vii) Proposed sampling and analysis plan for total chloride and chlorine for the hazardous waste, other fuels, and industrial furnace feedstocks.

(6) Data in lieu of trial burn. The owner or operator may seek an exemption from the trial burn requirements to demonstrate conformance with 266.104 through 266.107 and 270.66 by providing the information required by 270.66 from previous compliance testing of the device in conformance with 266.103, or from compliance testing or trial or operational burns of similar boilers or industrial furnaces burning similar hazardous wastes under similar conditions. If data from a similar device is used to support a trial burn waiver, the design and operating information required by 270.66 must be provided for both the similar device and the device to which the data is to be applied, and a comparison of the design and operating information must be provided. The Department shall approve a permit application without a trial burn if he finds that the hazardous wastes are sufficiently similar, the devices are sufficiently similar, the operating conditions are sufficiently similar, and the data from other compliance tests, trial burns, or operational burns are adequate to specify (under 266.102) operating conditions that will ensure conformance with 266.102(c). In addition, the following information shall be submitted:

(i) For a waiver from any trial burn:

(A) A description and analysis of the hazardous waste to be burned compared with the hazardous waste for which data from compliance testing, or operational or trial burns are provided to support the contention that a trial burn is not needed;

(B) The design and operating conditions of the boiler or industrial furnace to be used, compared with that for which comparative burn data are available; and

(C) Such supplemental information as the Department finds necessary to achieve the purposes of this paragraph.

(ii) For a waiver of the DRE trial burn, the basis for selection of POHCs used in the other trial or operational burns which demonstrate compliance with the DRE performance standard in 266.104(a). This analysis should specify the constituents in appendix VIII, part 261, that the applicant has identified in the hazardous waste for which a permit is sought, and any differences from the POHCs in the hazardous waste for which burn data are provided.

(b) Alternative HC limit for industrial furnaces with organic matter in raw materials. Owners and operators of industrial furnaces requesting an alternative HC limit under 266.104(f) shall submit the following information at a minimum:

(1) Documentation that the furnace is designed and operated to minimize HC emissions from fuels and raw materials;

(2) Documentation of the proposed baseline flue gas HC (and CO) concentration, including data on HC (and CO) levels during tests when the facility produced normal products under normal operating conditions from normal raw materials while burning normal fuels and when not burning hazardous waste;

(3) Test burn protocol to confirm the baseline HC (and CO) level including information on the type and flow rate of all feedstreams, point of introduction of all feedstreams, total organic carbon content (or other appropriate measure of organic content) of all nonfuel feedstreams, and operating conditions that affect combustion of fuel(s) and destruction of hydrocarbon emissions from nonfuel sources;

(4) Trial burn plan to:

(i) Demonstrate that flue gas HC (and CO) concentrations when burning hazardous waste do not exceed the baseline HC (and CO) level; and

(ii) Identify the types and concentrations of organic compounds listed in appendix VIII, part 261, that are emitted when burning hazardous waste in conformance with procedures prescribed by the Department;

(5) Implementation plan to monitor over time changes in the operation of the facility that could reduce the baseline HC level and procedures to periodically confirm the baseline HC level; and

(6) Such other information as the Department finds necessary to achieve the purposes of this paragraph.

(c) Alternative metals implementation approach. When seeking to be permitted under an alternative metals implementation approach under 266.106(f), the owner or operator must submit documentation specifying how the approach ensures compliance with the metals emissions standards of 266.106(c) or (d) and how the approach can be effectively implemented and monitored. Further, the owner or operator shall provide such other information that the Department finds necessary to achieve the purposes of this paragraph.

(d) Automatic waste feed cutoff system. Owners and operators shall submit information describing the automatic waste feed cutoff system, including any prealarm systems that may be used.

(e) Direct transfer. Owners and operators that use direct transfer operations to feed hazardous waste from transport vehicles (containers, as defined in 266.111) directly to the boiler or industrial furnace shall submit information supporting conformance with the standards for direct transfer provided by 266.111.

(f) Residues. Owners and operators that claim that their residues are excluded from regulation under the provisions of 266.112 must submit information adequate to demonstrate conformance with those provisions.

270.23 Specific Part B information requirements for miscellaneous units

Except as otherwise provided in 264.600, owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units must provide the following additional information: (11/90)

(a) A detailed description of the unit being used or proposed for use, including the following:

(1) Physical characteristics, materials of construction, and dimensions of the unit;

(2) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of 264.601 and 264.602; and

(3) For disposal units, a detailed description of the plans to comply with the postclosure requirements of 264.603.

(b) Detailed hydrologic, geologic, and meteorologic assessments and land use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of 264.601. If the applicant can demonstrate that he does not violate the environmental performance standards of 264.601 and the Department agrees with such demonstration, preliminary hydrologic, geologic, and meteorologic assessments will suffice.

(c) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the poential magnitude and nature of such exposures.

(d) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(e) Any additional information determined by the Department to be necessary for evaluation of compliance of the unit with the environmental performance standards of 264.601.

270.24 Specific Part B information requirements for process vents

Except as otherwise provided in 264.1, owners and operators of facilities that have process vents to which subpart AA of part 264 applies must provide the following additional information:

(a) For facilities that cannot install a closed-vent system and control device to comply with the provisions of 264 subpart AA on the effective date that the facility becomes subject to the provisions of 264 or 265 subpart AA, an implementation schedule as specified in 264.1033(a)(2). (12/92)

(b) Documentation of compliance with the process vent standards in 264.1032, including:

(1) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(2) Information and data supporting estimates of vent emissions and emission reduction achieved by addon control devices based on engineering calculations or source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or concentrations) that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(3) Information and data used to determine whether or not a process vent is subject to the requirements of 264.1032.

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with the requirements of 264.1032, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in 264.1035(b)(3).

(d) Documentation of compliance with 264.1033, including:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records, including the dates, of each compliance test required by 264.1033(k).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ``APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in 270.6) or other engineering texts acceptable to the Department that present basic control device information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in Sec. 264.1035(b)(4)(iii). (5/96, 6/08)

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater unless the total organic emission limits of 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

270.25 Specific Part B information requirements for equipment

Except as otherwise provided in 264.1, owners and operators of facilities that have equipment to which subpart BB of part 264 applies must provide the following additional information:

(a) For each piece of equipment to which subpart BB of part 264 applies:

(1) Equipment identification number and hazardous waste management unit identification.

(2) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(3) Type of equipment (e.g., a pump or pipeline valve).

(4) Percent by weight total organics in the hazardous waste stream at the equipment.

(5) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(6) Method of compliance with the standard (e.g., monthly leak detection and repair or equipped with dual mechanical seals). (12/92)

(b) For facilities that cannot install a closed-vent system and control device to comply with the provisions of 264 subpart BB on the effective date that the facility becomes subject to the provisions of 264 or 265 subpart BB, an implementation schedule as specified in 264.1033(a)(2).

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in 264.1035(b)(3).

(d) Documentation that demonstrates compliance with the equipment standards in 264.1052 to 264.1059. This documentation shall contain the records required under 264.1064. The Department or Regional Administrator may request further documentation before deciding if compliance has been demonstrated. (5/96)

(e) Documentation to demonstrate compliance with 264.1060 shall include the following information:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records, including the dates, of each compliance test required by 264.1033(j).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of ATPI Course 415: Control of Gaseous Emissions (incorporated by reference as specified in 270.6) or other engineering texts acceptable to the Department that present basic control device information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in 264.1035(b)(4)(iii). (5/96)

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater.

270.26 Special Part B information requirements for drip pads

Except as otherwise provided by 264.1 of this chapter, owners and operators of hazardous waste treatment, storage, or disposal facilities that collect, store, or treat hazardous waste on drip pads must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed on each drip pad. (12/92)

(b) If an exemption is sought to subpart F of part 264 of this chapter, as provided by 264.90 of this chapter, detailed plans and an engineering report describing how the requirements of 264.90(b)(2) of this chapter will be met.

(c) Detailed plans and an engineering report describing how the drip pad is or will be designed, constructed, operated and maintained to meet the requirements of 264.573 of this chapter, including the as-built drawings and specifications. This submission must address the following items as specified in 264.571 of this chapter:

(1) The design characteristics of the drip pad;

(2) The liner system;

(3) The leakage detection system, including the leak detection system and how it is designed to detect the failure of the drip pad or the presence of any releases of hazardous waste or accumulated liquid at the earliest practicable time;

(4) Practices designed to maintain drip pads;

(5) The associated collection system;

(6) Control of run-on to the drip pad;

(7) Control of run-off from the drip pad;

(8) The interval at which drippage and other materials will be removed from the associated collection system and a statement demonstrating that the interval will be sufficient to prevent overflow onto the drip pad;

(9) Procedures for cleaning the drip pad at least once every seven days to ensure the removal of any accumulated residues of waste or other materials, including but not limited to rinsing, washing with detergents or other appropriate solvents, or steam cleaning and provisions for documenting the date, time, and cleaning procedure used each time the pad is cleaned.

(10) Operating practices and procedures that will be followed to ensure that tracking of hazardous waste or waste constituents off the drip pad due to activities by personnel or equipment is minimized;

(11) Procedures for ensuring that, after removal from the treatment vessel, treated wood from pressure and non-pressure processes is held on

the drip pad until drippage has ceased, including recordkeeping practices;

(12) Provisions for ensuring that collection and holding units associated with the run-on and run-off control systems are emptied or otherwise managed as soon as possible after storms to maintain design capacity of the system;

(13) If treatment is carried out on the drip pad, details of the process equipment used, and the nature and quality of the residuals.

(14) A description of how each drip pad, including appurtenances for control of run-on and runoff, will be inspected in order to meet the requirements of 264.573 of this chapter. This information should be included in the inspection plan submitted under 270.14(b)(5) of this part.

(15) A certification signed by a qualified Professional Engineer, stating that the drip pad design meets the requirements of paragraphs (a) through (f) 264.573.

(16) A description of how hazardous waste residues and contaminated materials will be removed from the drip pad at closure, as required under 264.575(a) of this chapter. For any waste not to be removed from the drip pad upon closure, the owner or operator must submit detailed plans and an engineering report describing how 264.310 (a) and (b) of this chapter will be complied with. This information should be included in the closure plan and, where applicable, the postclosure plan submitted under 270.14(b)(13).

270.27 Specific Part B information requirements for air emission controls for tanks, surface impoundments, and containers

(a) Except as otherwise provided in 264.1, owners and operators of tanks, surface impoundments, or containers that use air emission controls in accordance with the requirements of 264, subpart CC shall provide the following additional information:

(1) Documentation for each floating roof cover installed on a tank subject to 264.1084(d)(1) or 264.1084(d)(2) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the applicable design specifications as listed in 264.1084(e)(1) or 264.1084(f)(1). (9/98)

(2) Identification of each container area subject to the requirements of 264, subpart CC and certification by the owner or operator that the requirements of this subpart are met.

(3) Documentation for each enclosure used to control air pollutant emissions from tanks or

containers in accordance with the requirements of 264.1084(d)(5) or 264.1086(e)(1)(ii) that includes records for the most recent set of calculations and measurements performed by the owner or operator to verify that the enclosure meets the criteria of a permanent total enclosure as specified in "Procedure T-Criteria for and Verification of a Permanent or Temporary Total Enclosure" under 40 CFR 52.741, appendix B.

(4) Documentation for each floating membrane cover installed on a surface impoundment in accordance with the requirements of 264.1085(c) that includes information prepared by the owner or operator or provided by the cover manufacturer or vendor describing the cover design, and certification by the owner or operator that the cover meets the specifications listed in 264.1085(c)(1).

(5) Documentation for each closed-vent system and control device installed in accordance with the requirements of 264.1087 that includes design and performance information as specified in 270.24(c) and (d) of this part. (9/01)

(6) An emission monitoring plan for both Method 21 in 40 CFR part 60, appendix A and control device monitoring methods. This plan shall include the following information: monitoring point(s), monitoring methods for control devices, monitoring frequency, procedures for documenting exceedances, and procedures for mitigating noncompliances.

(7) When an owner or operator of a facility subject to part 265, subpart CC cannot comply with part 264, subpart CC by the date of permit issuance, the schedule of implementation required under 265.1082. (9/01)

270.28 Part B information requirements for postclosure permits.

For postclosure permits, the owner or operator is required to submit only the information specified in 270.14(b)(1), (4), (5), (6), (11), (13), (14), (16), (18) and (19), (c), and (d), unless the Department determines that additional information from 270.14, 270.16, 270.17, 270.18, 270.20, or 270.21 is necessary. (8/00)

270.29 Permit denial

(12/92)

The Department, pursuant to the procedures in part 124, deny the permit application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

Subpart C - PERMIT CONDITIONS

270.30 Conditions applicable to all permits

The following conditions apply to all permits under these regulations, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations must be given in the permit. (12/92)

(a) Duty to comply. The permittee must comply with all conditions included in his approved permit application, all conditions and restrictions placed upon its permit, all applicable regulations promulgated pursuant to the Act, and all orders issued by the Board, Commissioner, or Department, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See 270.61).. Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the appropriate Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. (12/93)

(b) Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. (12/92)

(c) Need to halt or reduce activity not a defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(e) Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(f) Permit actions. This permit may be modified, revoked and reissued, or terminated for

cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition. (12/92)

(g) Property rights. The permit does not convey any property rights of any sort, or any exclusive privilege. (12/92)

(h) Duty to provide information. The permittee shall furnish to the Department, within a reasonable time, any relevant information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

(i) Inspection and entry. The permittee shall allow an authorized representative of the Department upon the presentation of credentials and other documents as may be required by law to:

(1) Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

(j) Monitoring and records.

(1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by 264.73(b)(9), and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the Department at any time. The permittee shall maintain records from all groundwater monitoring wells and associated groundwater surface elevations, for the active life of the facility, and for

disposal facilities for the postclosure care period as well. (12/92)

(3) Records for monitoring information shall include: (12/92)

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(k) Signatory requirements. All applications, reports, or information submitted to the Department shall be signed and certified. (See 270.11.)

(l) Reporting requirements.

(1) Planned changes. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. (12/93)

(2) Anticipated noncompliance. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in 270.42, until: (11/90)

(i) The permittee has submitted to the Department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(ii) (A) The Department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or (12/92, 9/98)

(B) Within 15 days of the date of submission of the letter in paragraph (l)(2)(i)of this section, the permittee has not received notice from the Department of his or her intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

(3) Transfers. The Department may transfer a permit when notified according to the provisions of Section 270.40. This permit is not transferable to any person. The Department may require modification or revocation and reissuance of

the permit to change the name of the permittee and incorporate such other requirements as may be necessary under these Regulations. (See 270.40) (12/93)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified by the Department.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. (12/92)

(6) Twenty-four hour reporting. (12/92)

(i) The permittee shall report any noncompliance which may endanger health or the environment orally to the Department within 24 hours from the time the permittee becomes aware of the circumstances, including: (12/92)

(A) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies.

(B) Any information of a release or discharge of hazardous waste or of a fire or explosion from the HWM facility, which could threaten the environment or human health outside the facility.

(ii) The description of the occurrence and its cause shall include:

(A) Name, address, and telephone number of the owner or operator;

(B) Name, address, and telephone number of the facility;

(C) Date, time, and type of incident;

(D) Name and quantity of material(s) involved;

(E) The extent of injuries, if any;

(F) An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(G) Estimated quantity and disposition of recovered material that resulted from the incident.

(iii) A written submission shall also be provided to the Department within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the

noncompliance. The Department may waive the five day written notice requirement in favor of a written report within fifteen days. (12/92)

(7) Manifest discrepancy report: If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must submit a letter report, including a copy of the manifest, to the Department (See 264.72.) (12/92)

(8) Unmanifested waste report: This report must be submitted to the Department within 15 days of receipt of unmanifested waste. (See 264.76) (12/92)

(9) Quarterly reports. The permittee shall submit quarterly reports of waste types and quantities as specified by 264.75.

(10) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) at the time quarterly reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section. (12/92; 12/93)

(11) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Department, it shall promptly submit such facts or information. (12/92)

(m) Information repository. The Department may require the permittee to establish and maintain an information repository at any time, based on the factors set forth in 124.33(b). The information repository will be governed by the provisions in 124.33(c) through (f). (9/98)

270.31 Requirements for recording and reporting of monitoring results

All permit applications shall specify:

(a) The proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in 264, 265, and 266. Reporting shall be no less frequent than specified in the above regulations. (11/90)

270.32 Establishing permit conditions

(a) In addition to conditions required in all permits (section 270.30), the Department shall establish conditions, as required on a case-by-case basis, in permits under 270.50 (duration of permits), 270.33(a) (schedules of compliance), 270.31 (monitoring), 270.33(b) (alternate schedules of compliance) and 270.3 (considerations under Federal law). (12/92; 12/93)

(b) (1) Each RCRA permit shall include permit conditions necessary to achieve compliance with the Act and regulations, including each of the applicable requirements specified in 264, and 266 through 268. In satisfying this provision, the Department may incorporate applicable requirements of parts 264, and 266 through 268 of this chapter directly into the permit or establish other permit conditions that are based on these parts. (12/92; 12/93)

(2) Each permit issued under section 3005 of RCRA shall contain terms and conditions as the Department determines necessary to protect human health and the environment. (12/92; 12/93)

(3) If, as the result of an assessment(s) or other information, the Department determines that conditions are necessary in addition to those required under 40 CFR parts 63, subpart EEE, 264 or 266 to ensure protection of human health and the environment, he shall include those terms and conditions in a RCRA permit for a hazardous waste combustion unit.(6/08)

(*c*) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit. Section 124.14 (reopening of comment period) provides a means for reopening permit proceedings at the discretion of the Region or Department where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in 270.41. (6/04)

(*d*) New or reissued permits, and to the extent allowed under 270.41, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in 270.31. (6/04)

(*e*) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit. (6/04)

270.33 Schedules of compliance

(a) The permit may, when appropriate, specify a schedule of compliance leading to compliance with the Act and regulations. (12/93)

(1) Time for compliance. Any schedules of compliance under this section shall require compliance as soon as possible.

(2) Interim dates. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement. (12/93)

(i) The time between interim dates shall not exceed 1 year.

(ii) If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date. (12/93)

(3) Reporting. The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Department in writing of its compliance or noncompliance with the interim or final requirements. (12/93)

(b) Alternative schedules of compliance. A RCRA permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and, for treatment and storage HWM facilities, closing pursuant to applicable requirements; and, for disposal HWM facilities, closing and conducting postclosure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows: (11/90; 12/93)

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(i) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

(ii) The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.

(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Department may issue or modify a permit to contain two schedules as follows:

(i) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities; (12/93)

(ii) One schedule shall lead to timely compliance with applicable requirements;

(iii) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements; (12/93)

(iv) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under paragraph (b)(3)(i) of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Department, such as resolution of the board of directors of a corporation.

(c) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit. Section 124.14 (reopening of comment period) provides a means for reopening permit proceedings at the discretion of the Region or Department where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in 270.41. (6/04)

(d) New or reissued permits, and to the extent allowed under 270.41, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in 270.31. (6/04)

(e) Incorporation. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit. (6/04)

Subpart D - CHANGES TO PERMIT

270.40 Transfer of permits

(a) A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under 270.40(b) or 270.41(b)(2)) to identify the new permittee and incorporate such other requirements as may be necessary under the appropriate Act. (6/97)

(b) Changes in the ownership or operational control of a facility may be made as a Class 1 modification with prior written approval of the Department in accordance with 270.42. The new owner or operator must submit a revised permit application no later than 90 days prior to the scheduled change. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees must also be submitted to the Department. When a transfer of ownership or operational control occurs, the old owner or operator shall comply with the requirements of Part 264, Subpart H (Financial Requirements) until the new owner or operator has demonstrated that he or she is complying with the requirements of that subpart. The new owner or operator must demonstrate compliance with subpart H requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the Department by the new owner or operator of compliance with subpart H, the Department shall notify the old owner or operator that he or she no longer needs to comply with subpart H as of the date of demonstration. (5/93, 6/97)

270.41 Modification or revocation and reissuance of permits

When the Department receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see section 270.30), receives a request for modification or revocation and reissuance under 124.5 or conducts a review of the permit file), it may determine whether one or more of the causes listed in paragraphs (a) and (b) of this section for modification, or revocation and reissuance or both exist. If cause exists, the Department may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. (See 124.5.) If cause does not exist under this section, the Department shall not modify or revoke and reissue the permit, except on request of the permittee. If a permit modification is requested by the permittee, the Department shall approve or deny the request according to the procedures of section 270.42. Otherwise, a draft permit must be prepared and other procedures in 124 followed. (5/93, 12/93, 6/97)

(a) Causes for modification. The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees.

(1) Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) Information. The Department has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) New statutory requirements or regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations, or by judicial decision after the permit was issued. (5/93)

(4) Compliance schedules. The Department determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the Department under section 270.50(d), the Department shall modify the permit as necessary to assure that the facility

continues to comply with the currently applicable requirements in 124, 260 through 266, and 270. (5/93, 12/93, 6/97)

(b) Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under Section 270.43, and the Department determines that modification or revocation and reissuance is appropriate. (12/93)

(2) The Department has received notification see section 270.30(l)(3) of a proposed transfer of the permit. (12/93)

(c) Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance. (12/93)

270.42 Permit modification at the request of the permittee

(a) Class 1 modifications. (5/93, 6/97)

(1) Except as provided in paragraph (a)(2) of this section, the permittee may put into effect Class 1 modifications listed in Appendix I of this section under the following conditions:

(i) The permittee must notify the Department concerning the modification by certified mail or other means that establish proof of delivery within 7 calendar days after the change is put into effect. This notice must specify the changes being made to permit conditions or supporting documents referenced by the permit and must explain why they are necessary. Along with the notice, the permittee must provide the applicable information required by 270.13 through 270.21, 270.62, and 270.63.

(ii) The permittee must send a notice of the modification to all persons on the facility mailing list, maintained by the Department in accordance with 124.10(c), and the appropriate units of State and local government, as specified in 124.10(c). This notification must be made within 90 calendar days after the change is put into effect. For the Class I modifications that require prior Department approval, the notification must be made within 90 calendar days after the Department approves the request.

(iii) Any person may request the Department to review, and the Department may for cause reject in accordance with 124.5, any Class 1 modification. The Department must inform the permittee by certified mail that a Class 1 modification has been rejected, explaining the reasons for the rejection. If a Class 1 modification has been rejected, the permittee must comply with the original permit conditions.

(2) Class 1 permit modifications identified in appendix I by a superscript may be made only with the prior written approval of the Department.

(3) For a Class 1 permit modification, the permittee may elect to follow the procedures in 270.42(b) for Class 2 modifications instead of the Class 1 procedures. The permittee must inform the Department of this decision in the notice required in 270.42(b)(1).

(b) Class 2 modifications. (6/97)

(1) For Class 2 modifications, listed in Appendix I of this section, the permittee must submit a modification request to the Department that:

(i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(ii) Identifies that the modification is a Class 2 modification;

(iii) Explains why the modification is needed; and

(iv) Provides the applicable information required by 270.13 through 270.21, 270.62, and 270.63. (6/03)

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Department and to the appropriate units of State and local government as specified in 124.10(c) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within 7 days before or after the date of submission of the modification request, and the permittee must provide to the Department evidence of the mailing and publication. The notice must include:

(i) Announcement of a 60-day comment period, in accordance with 270.42(b)(5), and the name and address of a Department contact to whom comments must be sent;

(ii) Announcement of the date, time, and place for a public meeting held in accordance with 270.42(b)(4);

(iii) Name and telephone number of the permittee's contact person;

(iv) Name and telephone number of a Department contact person;

(v) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(vi) The following statement: "The permittee's compliance history during the life of the

permit being modified is available from the Department contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(4) The permittee must hold a public meeting no earlier than 15 days after the publication of the notice required in paragraph (b)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Department contact identified in the public notice.

(6) (i) No later than 90 days after receipt of the notification request, the Department must:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request;

(C) Determine that the modification request must follow the procedures in 270.42(c) for Class 3 modifications for the following reasons:

(1) There is significant public concern about the proposed modification; or

(2) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days, or

(E) Notify the permittee that the Department will decide on the request within the next 30 days.

(ii) If the Department notifies the permittee of a 30-day extension for a decision, the Department must, no later than 120 days after receipt of the modification request:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request; or

(C) Determine that the modification request must follow the procedures in 270.42(c) for Class 3 modifications for the following reasons:

(1) There is significant public concern about the proposed modification; or

(2) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days.

(iii) If the Department fails to make one of the decisions specified in paragraph (b)(6)(ii) of this section by the 120th day after receipt of the modification request, the permittee is automatically authorized to conduct the activities described in the modification request for up to 180 days, without formal Department action. The authorized activities must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of Part 265. If the Department approves, with or without changes, or denies the modification request during the term of the temporary or automatic authorization provided for in paragraphs (b)(6) (i), (ii), or (iii) of this section, such action cancels the temporary or automatic authorization.

(iv) (A) In the case of an automatic authorization under paragraph (b)(6)(iii) of this section, or a temporary authorization under paragraph (b)(6)(i)(D) or (ii)(D) of this section, if the Department has not made a final approval or denial of the modification request by the date 50 days prior to the end of the temporary or automatic authorization, the permittee must within seven days of that time send a notification to persons on the facility mailing list, and make a reasonable effort to notify other persons who submitted written comments on the modification request, that:

(1) The permittee has been authorized temporarily to conduct the activities described in the permit modification request, and

(2) Unless the Department acts to give final approval or denial of the request by the end of the authorization period, the permittee will receive authorization to conduct such activities for the life of the permit.

(B) If the owner/operator fails to notify the public by the date specified in paragraph (b)(6)(iv)(A) of this section, the effective date of the permanent authorization will be deferred until 50 days after the owner/operator notifies the public.

(v) Except as provided in paragraph (b)(6)(vii) of this section, if the Department does not finally approve or deny a modification request before the end of the automatic or temporary authorization period or reclassify the modification as a Class 3, the permittee is authorized to conduct the activities described in the permit modification request for the life of the permit unless modified later under 270.41 or 270.42. The activities

authorized under this paragraph must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of Part 265.

(vi) In making a decision to approve or deny a modification request, including a decision to issue a temporary authorization or to reclassify a modification as a Class 3, the Department must consider all written comments submitted to the Department during the public comment period and must respond in writing to all significant comments in his or her decision.

(vii) With the written consent of the permittee, the Department may extend indefinitely or for a specified period the time periods for final approval or denial of a modification request or for reclassifying a modification as a Class 3.

(7) The Department may deny or change the terms of a Class 2 permit modification request under paragraphs (b)(6) (i) through (iii) of this section for the following reasons:

(i) The modification request is incomplete;

(ii) The requested modification does not comply with the appropriate requirements of Part 264 or other applicable requirements; or

(iii) The conditions of the modification fail to protect human health and the environment.

(8) The permittee may perform any construction associated with a Class 2 permit modification request beginning 60 days after the submission of the request unless the Department establishes a later date for commencing construction and informs the permittee in writing before day 60.

(c) Class 3 modifications. (6/97)

(1) For Class 3 modifications listed in Appendix I of this section, the permittee must submit a modification request to the Department that:

(i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(ii) Identifies that the modification is a Class 3 modification;

(iii) Explains why the modification is needed; and

(iv) Provides the applicable information required by 270.13 through 270.22, 270.62, 270.63, and 270.66.

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Department and to the appropriate units of State and local government as specified in 124.10(c) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the Department evidence of the mailing and publication. The notice must include:

(i) Announcement of a 60-day comment period, and a name and address of a Department contact to whom comments must be sent;

(ii) Announcement of the date, time, and place for a public meeting on the modification request, in accordance with 270.42(c)(4);

(iii) Name and telephone number of the permittee's contact person;

(iv) Name and telephone number of a Department contact person;

(v) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(vi) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the Department contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(4) The permittee must hold a public meeting no earlier than 15 days after the publication of the notice required in paragraph (c)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided at least 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Department contact identified in the notice.

(6) After the conclusion of the 60-day comment period, the Department must grant or deny the permit modification request according to the permit modification procedures of Part 124. In addition, the Department must consider and respond to all significant written comments received during the 60-day comment period.

(d) Other modifications.

(1) In the case of modifications not explicitly listed in Appendix I of this section, the permittee may submit a Class 3 modification request to the Department, or he or she may request a determination by the Department that the

modification should be reviewed and approved as a Class 1 or Class 2 modification. If the permittee requests that the modification be classified as a Class 1 or Class 2 modification, he or she must provide the Department with the necessary information to support the requested classification. (6/97)

(2) The Department shall make the determination described in paragraph (d)(1) of this section as promptly as practicable. In determining the appropriate class for a specific modification, the Department shall consider the similarity of the modification to other modifications codified in Appendix I and the following criteria:

(i) Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the ability of the facility to protect human health or the environment. In the case of Class 1 modifications, the Department may require prior approval. (6/97)

(ii) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to,

(A) Common variations in the types and quantities of the wastes managed under the facility permit,

(B) Technological advancements, and

(C) Changes necessary to comply with new regulations, where these changes can be implemented without substantially changing design specifications or management practices in the permit.

(iii) Class 3 modifications substantially alter the facility or its operation.

(e) Temporary authorizations.

(1) Upon request of the permittee, the Department may, without prior public notice and comment, grant the permittee a temporary authorization in accordance with this subsection. Temporary authorizations must have a term of not more than 180 days.

(2) (i) The permittee may request a temporary authorization for:

(A) Any Class 2 modification meeting the criteria in paragraph (e)(3)(ii) of this section, and

(B) Any Class 3 modification that meets the criteria in paragraph (3)(ii)(A) or (B) of this section; or that meets the criteria in paragraphs (3)(ii)(C) through (E) of this section and provides improved management or treatment of a hazardous waste already listed in the facility permit. (12/93)

(ii) The temporary authorization request must include:

(A) A description of the activities to be conducted under the temporary authorization;

(B) An explanation of why the temporary authorization is necessary; and

(C) Sufficient information to ensure compliance with Part 264 standards.

(iii) The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the Department and to appropriate units of State and local governments as specified in 124.10(c)(ix). This notification must be made within seven days of submission of the authorization request. (6/97)

(3) The Department shall approve or deny the temporary authorization as quickly as practical. To issue a temporary authorization, the Department must find:

(i) The authorized activities are in compliance with the standards of Part 264.

(ii) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request:

(A) To facilitate timely implementation of closure or corrective action activities;

(B) To allow treatment or storage in tanks or containers, or in containment buildings in accordance with Part 268; (12/93)

(C) To prevent disruption of ongoing waste management activities;

(D) To enable the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit; or

(E) To facilitate other changes to protect human health and the environment.

(4) A temporary authorization may be reissued for one additional term of up to 180 days provided that the permittee has requested a Class 2 or 3 permit modification for the activity covered in the temporary authorization, (12/94, 6/97) and:

(i) The reissued temporary authorization constitutes the Department's decision on a Class 2 permit modification in accordance with paragraph (b)(6)(i)(D) or (ii)(D) of this section, or (12/93; 6/95, 6/97)

(ii) The Department determines that the reissued temporary authorization involving a Class 3 permit modification request is warranted to allow the authorized activities to continue while the modification procedures of paragraph (c) of this section are conducted. (12/93, 6/95, 9/98, 6/04)

(f) Public notice and appeals of permit modification decisions. (6/97)

(1) The Department shall notify persons on the facility mailing list and appropriate units of State and local government within 10 days of any decision under this section to grant or deny a Class 2 or 3 permit modification request. The Department shall also notify such persons within 10 days after an automatic authorization for a Class 2 modification goes into effect under 270.42(b)(6)(iii) or (v).

(2) The Department's decision to grant or deny a Class 2 or 3 permit modification request under this section may be appealed under the permit appeal procedures described in 124.19.

(3) An automatic authorization that goes into effect under 270.42(b)(6)(iii) or (v) may be appealed under the permit appeal procedures described in 124.19; however, the permittee may continue to conduct the activities pursuant to the automatic authorization until the appeal has been granted pursuant to 124.19, notwithstanding the provisions of 124.15(b).

(g) Newly regulated wastes and units. (5/93, 6/97)

(1) The permittee is authorized to continue to manage wastes listed or identified as hazardous under 261 or to continue to manage hazardous waste in units newly regulated as hazardous waste management units, if:

(i) The unit was in existence as a hazardous waste facility with respect to the newly listed or characterized waste or newly regulated waste management unit on the effective date of the final rule listing or identifying the waste, or regulating the unit;

(ii)The permittee submits a Class 1 modification request on or before the date on which the waste or unit becomes subject to the new requirements;(6/03)

(iii) The permittee is in compliance with the applicable standards of Part 265 and 266;

(iv) The permittee also submits a complete Class 2 or 3 permit modification request within 180 days of the effective date of the rule listing or identifying the waste, or subjecting the unit to RCRA Subtitle C management standards; (12/93)

(v) In the case of land disposal units, the permittee certifies that each such unit is in compliance with all applicable requirements of 265 for groundwater monitoring and financial responsibility on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous, or regulating the unit as a hazardous waste management unit. If the owner or operator fails to certify compliance with all these requirements, he or she will lose authority to operate under this section. (12/93)

(vi) As of December 25, 1992, any facility which fails to meet the federal requirements for a Class 1 permit modification request to continue to manage a newly regulated waste code promulgated pursuant to HSWA or to continue to manage hazardous waste in newly regulated units promulgated pursuant to HSWA shall also be denied the Class 1 modification request to continue to conduct such activity under State law.

(2) [Reserved]

(h) Military hazardous waste munitions treatment and disposal. The permittee is authorized to continue to accept waste military munitions notwithstanding any permit conditions barring the permittee from accepting off-site wastes, if: (9/98)

(1) The facility was in existence as a hazardous waste facility, and the facility was already permitted to handle the waste military munitions, on the date when the waste military munitions became subject to hazardous waste regulatory requirements;

(2) On or before the date when the waste military munitions become subject to hazardous waste regulatory requirements, the permittee submits a Class 1 modification request to remove or amend the permit provision restricting the receipt of off-site waste munitions; and

(3) The permittee submits a complete Class 2 modification request within 180 days of the date when the waste military munitions became subject to hazardous waste regulatory requirements.

(i) Permit modification list. The Department must maintain a list of all approved permit modifications and must publish a notice once a year in a state-wide newspaper that an updated list is available for review. (9/98)

(j) Combustion facility changes to meet 40 CFR part 63 MACT standards. The following procedures apply to hazardous waste combustion facility permit modifications requested under Appendix I of this section, section L(9). (11/99, 8/00)

(1) Facility owners or operators must have complied with the Notification of Intent to Comply (NIC) requirements of 40 CFR 63.1210 that was in effect prior to Oct 11, 2000 (see 40 CFR part 63.1200-63.1499 revised as of July 1, 2000), in order to request a permit modification under this section for the purpose of technology changes needed to meet the standards under 40 CFR 63.1203, 63.1204, and 63.1205. (6/02, 6/03, 6/04, 6/08)

(2) Facility owners or operators must comply with the Notification of Intent to Comply

(NIC) requirements of 40 CFR 63.1210(b) and 63.1212(a) before a permit modification can be requested under this section for the purpose of technology changes needed to meet the 40 CFR 63.1215, 63.1216, 63.1217, 63.1218, 63.1219, 63.1220, and 63.1221 standards promulgated on October 12, 2005.

(3) If the Department does not approve or deny the request within 90 days of receiving it, the request shall be deemed approved. The Department may, at its discretion, extend this 90 day deadline one time for up to 30 days by notifying the facility owner or operator.

(*k*) Waiver of RCRA permit conditions in support of transition to the 40 CFR part 63 MACT standards.

(1) You may request to have specific RCRA operating and emissions limits waived by submitting a Class 1 permit modification request under Appendix I of this section, section L(10). You must:

(i) Identify the specific RCRA permit operating and emissions limits which you are requesting to waive;

(ii) Provide an explanation of why the changes are necessary in order to minimize or eliminate conflicts between the RCRA permit and MACT compliance; and

(iii) Discuss how the revised provisions will be sufficiently protective.

(iv) The Department shall approve or deny the request within 30 days of receipt of the request. The Department may extend this 30 day deadline one time for up to 30 days by notifying the facility owner or operator.

(2) To request this modification in conjunction with MACT performance testing where permit limits may only be waived during actual test events and pretesting, as defined under 40 CFR 63.1207(h)(2)(i) and (ii), for an aggregate time not to exceed 720 hours of operation (renewable at the discretion of the Department) you must:

(i) Submit your modification request to the Director at the same time you submit your test plans to the Administrator; and

(ii) The Department may elect to approve or deny the request continent upon approval of the test plans. (6/08)

Appendix I to 270.42 - Classification of Permit Modification

Modifications	Class
A. *General Permit Provisions*	
1. Administrative and informational changes	1
2. Correction of typographical errors	1
3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)	1
4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee:	
a. To provide for more frequent monitoring, reporting, sampling, or maintenance.	1
b. Other changes.	2
5. Schedule of compliance:	
a. Changes in interim compliance dates, with prior approval of the Director.	[1]1
b. Extension of final compliance date.	3
6. Changes in expiration date of permit to allow earlier permit termination, with prior approval of the Director.	[1]1
7. Changes in ownership or operational control of a facility, provided the procedures of 270.40(b) are followed.	[1]1
8. Changes to remove permit conditions that are no longer applicable (i.e., because the standards upon which they are based are no longer applicable to the facility). (6/03)	[1]1
B. *General Facility Standards*	
1. Changes to waste sampling or analysis methods:	
a. To conform with agency guidance or regulations.	1
b. To incorporate changes associated with F039 (multi-source leachate) sampling or analysis methods.	1
c. To incorporate changes associated with underlying hazardous constituents in ignitable or corrosive wastes. (12/93)	[1]1
d. Other changes. (moved 12/93)	2
2. Changes to analytical quality assurance/control plan:	
a. To conform with agency guidance or regulations.	1
b. Other changes.	2
3. Changes in procedures for maintaining the operating record.	[1]1
4. Changes in frequency or content of inspection schedules.	2
5. Changes in the training plan:	
a. That affect the type or decrease the amount of training given to employees.	2
b. Other changes.	1

Modifications	Class
6. Contingency plan:	
a. Changes in emergency procedures (i.e., spill or release response procedures).	2
b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed.	1
c. Removal of equipment from emergency equipment list.	2
d. Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan.	1
7. Construction quality assurance plan: (12/93)	
a. Changes that the CQA officer certifies in the operating record will provide equivalent or better certainty that the unit components meet the design specifications.	1
b. Other changes.	2
Note: When a permit modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change shall be reviewed under the same procedures as the permit modification.	
C. *Groundwater Protection*	
1. Changes to wells:	
a. Changes in the number, location, depth, or design of upgradient or downgradient wells of permitted groundwater monitoring system.	2
b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well.	1
2. Changes in groundwater sampling or analysis procedures or monitoring schedule, with prior approval of the Director.	[1]1
3. Changes in statistical procedure for determining whether a statistically significant change in groundwater quality between upgradient and downgradient wells has occurred, with prior approval of the Director.	[1]1
4. Changes in point of compliance.	[1]2
5. Changes in indicator parameters, hazardous constituents, or concentration limits (including ACLs):	
a. As specified in the groundwater protection standard.	3
b. As specified in the detection monitoring program.	2
6. Changes to a detection monitoring program as required by 264.98(h), unless otherwise specified in this appendix.	2
7. Compliance monitoring program:	
a. Addition of compliance monitoring program as required by 264.98(g)(4) and 264.99.	3
b. Changes to a compliance monitoring program as required by 264.99(j), unless otherwise specified in this appendix.	2
8. Corrective action program:	
a. Addition of a corrective action program as required by 264.99(h)(2) and 264.100.	3
b. Changes to a corrective action program as required by 264.100(h), unless otherwise specified in this Appendix.	2
D. *Closure*	
1. Changes to the closure plan:	
a. Changes in estimate of maximum extent of operations or maximum inventory of waste onsite at any time during the active life of the facility, with prior approval of the Director.	[1]1
b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the Director.	[1]1
c. Changes in the expected year of final closure, where other permit conditions are not changed, with prior approval of the Director.	[1]1
d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the Director.	[1]1
e. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix.	2
f. Extension of the closure period to allow a landfill, surface impoundment or land treatment unit to receive nonhazardous wastes after final receipt of hazardous wastes under 264.113 (d) and (e).	2
2. Creation of a new landfill unit as part of closure.	3
3. Addition of the following new units to be used temporarily for closure activities:	
a. Surface impoundments.	3
b. Incinerators.	3
c. Waste piles that do not comply with 264.250(c).	3
d. Waste piles that comply with 264.250(c).	2
e. Tanks or containers (other than specified below).	2
f. Tanks used for neutralization, dewatering, phase separation, or component separation, with prior approval of the Director.	[1]1
g. Staging piles (8/00)	2
E. *Postclosure*	
1. Changes in name, address, or phone number of contact in postclosure plan.	1
2. Extension of postclosure care period.	2
3. Reduction in the postclosure care period.	3

Modifications	Class
4. Changes to the expected year of final closure, where other permit conditions are not changed.	1
5. Changes in postclosure plan necessitated by events occurring during the active life of the facility, including partial and final closure.	2
F. *Containers*	
1. Modification or addition of container units:	
a. Resulting in an increase in the facility's container storage capacity.	3
b. Not resulting in an increase in the facility's container storage capacity.	2
2:	
a. Modification of a container unit without increasing the capacity of the unit.	2
b. Addition of a roof to a container unit without alteration of the containment system.	[1]1
3. Storage of different wastes in containers:	
a. That require additional or different management practices from those authorized in the permit.	3
b. That do not require additional or different management practices from those authorized in the permit.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
G. *Tanks*	
1:	
a. Modification or addition of tank units resulting in an increase in the facility's tank capacity.	3
b. Modification or addition of tank units not resulting in an increase in the facility's tank capacity.	2
c. Addition of a new tank that will operate for more than 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation.	3
d. After prior approval of the Director, addition of a new tank that will operate for up to 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation.	3
2. Modification of a tank unit or secondary containment system without increasing the capacity of the unit.	2
3. Replacement of a tank with a tank that meets the same design standards and has a capacity less than or equal to the capacity of the replaced tank provided.	[1]1
- The capacity difference is no more than 1500 gallons,	
- The replacement tank meets the same conditions in the permit.	
4. Modification of a tank management practice.	2
5. Management of different wastes in tanks:	
a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the permit.	3
b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the permit.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
H. *Surface Impoundments*	
1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity.	3
2. Replacement of a surface impoundment unit.	3
3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system, or leachate collection system.	2
4. Modification of a surface impoundment management practice.	2
5. Treatment, storage, or disposal of different wastes in surface impoundments:	
a. That require additional or different management practices or different design of the liner or leak detection system than authorized in the permit.	3
b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the permit.	2
6. Modifications of unconstructed units to comply with 264.221(c), 264.222, 264.223, and 264.226(d). (12/93)	[1]11
7. Changes in response action plan: (12/93)	
a. Increase in action leakage rate.	3
b. Change in a specific response reducing its frequency or effectiveness.	3
c. Other changes.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
I. *Enclosed Waste Piles.* For all waste piles except those complying with 264.250(c), modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with 264.250(c).	
1. Modification or addition of waste pile units:	
a. Resulting in an increase in the facility's waste pile storage or treatment capacity.	3
b. Not resulting in an increase in the facility's waste pile storage or treatment capacity.	2
2. Modification of waste pile unit without increasing the capacity of the unit.	2

Modifications	Class
3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit.	2
4. Modification of a waste pile management practice.	2
5. Storage or treatment of different wastes in waste piles:	
a. That require additional or different management practices or different design of the unit.	3
b. That do not require additional or different management practices or different design of the unit.	2
6. Conversion of an enclosed waste pile to a containment building unit. (12/93)	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
J. *Landfills and Unenclosed Waste Piles*	
1. Modification or addition of landfill units that result in increasing the facility's disposal capacity.	3
2. Replacement of a landfill.	3
3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control, or final cover system.	3
4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control, or final cover system.	2
5. Modification of a landfill management practice.	2
6. Landfill different wastes:	
a. That require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system.	3
b. That do not require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system.	2
7. Modifications of unconstructed units to comply with 264.251(c), 264.252, 264.253, 264.254(c), 264.301(c), 264.302, 264.303(c), and 264.304. (12/93)	[1]11
8. Changes in response action plan: (12/93)	
a. Increase in action leakage rate.	3
b. Change in a specific response reducing its frequency or effectiveness.	3
c. Other changes.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
K. *Land Treatment*	
1. Lateral expansion of or other modification of a land treatment unit to increase area extent.	3
2. Modification of run-on control system.	2
3. Modify run-off control system	3
4. Other modifications of land treatment unit component specifications or standards required in permit.	2
5. Management of different wastes in land treatment units:	
a. That require a change in permit operating conditions or unit design specifications.	3
b. That do not require a change in permit operating conditions or unit design specifications.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
6. Modification of a land treatment unit management practice to:	
a. Increase rate or change method of waste application.	3
b. Decrease rate of waste application.	1
7. Modification of a land treatment unit management practice to change measures of pH or moisture content, or to enhance microbial or chemical reactions.	2
8. Modification of a land treatment unit management practice to grow food chain crops, to add to or replace existing permitted crops with different food chain crops, or to modify operating plans for distribution of animal feeds resulting from such crops.	3
9. Modification of operating practice due to detection of releases from the land treatment unit pursuant to 264.278(g)(2).	3
10. Changes in the unsaturated zone monitoring system, resulting in a change to the location, depth, number of sampling points, or replace unsaturated zone monitoring devices or components of devices with devices or components that have specifications different from permit requirements.	3
11. Changes in the unsaturated zone monitoring system that do not result in a change to the location, depth, number of sampling points, or that replace unsaturated zone monitoring devices or components of devices with devices or components having specifications different from permit requirements.	2
12. Changes in background values for hazardous constituents in soil and soil-pore liquid.	2
13. Changes in sampling, analysis, or statistical procedure.	2
14. Changes in land treatment demonstration program prior to or during the demonstration.	2
15. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met, and the Director's prior approval has been received.	[1]1
16. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are	[1]1

Modifications	Class
substantially the same as the conditions for the first demonstration and have received the prior approval of the Director.	
17. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, where the conditions for the second demonstration are not substantially the same as the conditions for the first demonstration.	3
18. Changes in vegetative cover requirements for closure.	2
L. *Incinerators, Boilers, and Industrial Furnaces:*	
1. Changes to increase any of the following limits authorized in the permit: A thermal feed rate limit, a feedstream feed rate limit, a chlorine/chloride feed rate limit, a metal feed rate limit, or an ash feed rate limit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3
2. Reserved.	
3. Modification of an incinerator, boiler, or industrial furnace unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HCl/Cl_2, metals, or particulate from the combustion gases, or by changing other features of the incinerator, boiler, or industrial furnace that could affect its capability to meet the regulatory performance standards. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3
4. Modification of an incinerator, boiler, or industrial furnace unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the permit. The Director may require a new trial burn to demonstrate compliance with the regulatory performance standards.	2
5. Operating requirements:	
a. Modification of the limits specified in the permit for minimum or maximum combustion gas temperature, minimum combustion gas residence time, oxygen concentration in the secondary combustion chamber, flue gas carbon monoxide and hydrocarbon concentration, maximum temperature at the inlet to the particulate matter emission control system, or operating parameters for the air pollution control system. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3
b. Modification of any stack gas emission limits specified in the permit, or modification of any conditions in the permit concerning emergency shutdown or automatic waste feed cutoff procedures or controls.	3
c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the permit.	2
6. Burning different wastes:	
a. If the waste contains a POHC that is more difficult to burn than authorized by the permit or if burning of the waste requires compliance with different regulatory performance standards than specified in the permit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3
b. If the waste does not contain a POHC that is more difficult to burn than authorized by the permit and if burning of the waste does not require compliance with different regulatory performance standards than specified in the permit.	2
Note: See 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
7. Shakedown and trial burn:	
a. Modification of the trial burn plan or any of the permit conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn.	2
b. Authorization of up to an additional 720 hours of waste burning during the shakedown period for determining operational readiness after construction, with the prior approval of the Director.	[1]1
c. Changes in the operating requirements set in the permit for conducting a trial burn, provided the change is minor and has received the prior approval of the Director.	[1]1
d. Changes in the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided the change is minor and has received the prior approval of the Director.	[1]1
8. Substitution of an alternative type of nonhazardous waste fuel that is not specified in the permit. (12/93)	1
9. Technology changes needed to meet standards under 40 CFR part 63 (Subpart EEE - National Emission Standards for Hazardous Air Pollutants from Hazardous Waste Combustors), provided the procedures of 270.42(i) are followed. (11/99)	[1]1
10. Changes to RCRA permit provisions needed to support transition to 40 CFR part 63 (Subpart EEE--National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors), provided the procedures of Sec. 270.42(k) are followed.	[1]1
M. *Containment Buildings.* (12/93)	
1. Modification or addition of containment building units:	
a. Resulting in an increase in the facility's containment building storage or treatment capacity.	3
b. Not resulting in an increase in the facility's containment building storage or treatment capacity.	2
2. Modification of a containment building unit or secondary containment system without increasing the capacity of the unit.	2
3. Replacement of a containment building with a containment building that meets the same design standards provided:	
a. The unit capacity is not increased.	[1]1

Modifications	Class
b. The replacement containment building meets the same conditions in the permit.	[1]1
4. Modification of a containment building management practice.	2
5. Storage or treatment of different wastes in containment buildings:	
a. That require additional or different management practices.	3
b. That do not require additional or different management practices.	2
N. *Corrective Action:* (12/93)	
1. Approval of a corrective action management unit pursuant to 264.552.	3
2. Approval of a temporary unit or time extension for a temporary unit pursuant to 264.553.	2
3. Approval of a staging pile or staging pile operating term extension pursuant to 264.554 pursuant to 264.554 (8/00)	2

1 Class 1 modifications requiring prior Department approval

[*l* through *o* Reserved]

270.43 Termination of permits

(a) The following are causes for terminating a permit during its term, or for denying a permit renewal application: (12/93)

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(4) Violation of any applicable requirement of the Hazardous Waste Management Act or of these Regulations promulgated pursuant to the Act; or

(5) Aiding, abetting, or permitting the violation of any provisions of the Hazardous Waste Management Act or any regulation pursuant to the Act.

(b) The Department shall follow the applicable procedures in 124 as appropriate in terminating any permit under this section. (12/93)

Subpart E - EXPIRATION AND CONTINUATION OF PERMITS

270.50 Duration of permits

(a) Permits issued under these regulations shall be effective for a fixed term not to exceed 10 years for facilities and not to exceed 3 years for transporters. (12/93, 5/95, 6/97)

(b) Except as provided in section 270.51, the term of a permit shall not be extended by modification beyond the maximum duration specified in this section.

(c) The Department may issue any permit for a duration that is less than the full allowable term under this section.

(d) Each permit for a land disposal facility shall be reviewed by the Department five years after the date of permit issuance or reissuance and shall be modified as necessary as provided in 270.41. (5/95, 6/97)

270.51 Continuation of expiring permits

(a) The conditions of an expired permit continue in force until the effective date of a new permit (see 124.15) if: (12/93)

(1) The permittee has submitted a timely application under section 270.14 and the applicable sections in sections 270.15 through 270.29 which is a complete (under section 270.10(c)) application for a new permit; and

(2) The Department through no fault of the permittee, does not issue a new permit with an effective date under 124.15 on or before the expiration date of the previous permit (for example, when issuance is impracticable due to time or resource constraints).

(b) Effect. Permits continued under this section remain fully effective and enforceable.

(c) Enforcement. When the permittee is not in compliance with the conditions of the expiring or expired permit, the Department may choose to do any or all of the following:

(1) Initiate enforcement action based upon the permit which has been continued;

(2) Issue a notice of intent to deny the new permit under 124.6. If the permit is denied, the owner or operator would then be required to cease the activities authorized by the continued permit or be subject to enforcement action for operating without a permit;

(3) Issue a new permit under 124 with appropriate conditions; or

(4) Take other actions authorized by these regulations.

Subpart F - SPECIAL FORMS OF PERMITS

270.60 Permits by rule

Notwithstanding any other provision of this part or 124, the following shall be deemed to have a permit

under these regulations if the conditions listed are met: (12/93)

(a) Ocean disposal barges or vessels. The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

(1) Has a permit for ocean dumping issued under 40 CFR part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1420 et seq.);

(2) Complies with the conditions of that permit; and

(3) Complies with the following hazardous waste regulations:

(i) 264.11, Identification number;

(ii) 264.71, Use of manifest system;

(iii) 264.72, Manifest discrepancies;

(iv) 264.73(a) and (b)(1), Operating record;

(v) 264.75, Quarterly report; and

(vi) 264.76, Unmanifested waste report.

(b) Injection wells. The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(1) Has a permit for underground injection issued under R.61-87 Underground Injection Control Regulations; and

(2) Complies with the conditions of that permit;

(3) Complies with 264.101.

(c) Publicly owned treatment works. The owner or operator of a POTW which accepts for treatment hazardous waste, if the owner or operator:

(1) Has an NPDES permit;

(2) Complies with the conditions of that permit; and

(3) Complies with the following regulations:

(i) 264.11, Identification number;

(ii) 264.71, Use of manifest system;

(iii) 264.72, Manifest discrepancies;

(iv) 264.73(a) and (b)(1), Operating record;

(v) 264.75, Quarterly report;

(vi) 264.76, Unmanifested waste report; and

(vii) Complies with 264.101. (12/93)

(4) If the waste meets all Federal, State, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

270.62 Hazardous waste incinerator permits

270.61 Emergency permits

(a) Notwithstanding any other provision of this part or 124 in the event the Department finds an imminent and substantial endangerment to human health or the environment the Department may issue a temporary emergency permit:

(1) To a non-permitted facility to allow treatment, storage, or disposal of hazardous waste or

(2) to a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit. (12/93)

(b) This emergency permit:

(1) May be oral or written. If oral, it shall be followed in five days by a written emergency permit; (12/93)

(2) Shall not exceed 90 days in duration; (12/93)

(3) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal; (12/93)

(4) May be terminated by the Department at any time without process if it determines that termination is appropriate to protect human health and the environment;

(5) Shall be accompanied by a public notice published under 124.10 including: (9/98)

(i) Name and address of the office granting the emergency authorization;

(ii) Name and location of the permitted HWM facility;

(iii) A brief description of the wastes involved;

(iv) A brief description of the action authorized and reasons for authorizing it; and

(v) Duration of the emergency permit; and

(6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this part and parts 264 and 266. (12/93)

270.62 Hazardous waste incinerator permits (5/93)

When an owner or operator of a hazardous waste incineration unit becomes subject to RCRA permit requirements after October 12, 2005, or when an owner or operator of an existing hazardous waste incineration unit demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, Subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance), under 63.1207(j) and 63.1210(d) documenting compliance with all applicable requirements of part 63 subpart EEE, the requirements do not apply, except those provisions

the Department determines are necessary to ensure compliance with 264.345(a) and 264.345(c) if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events. Nevertheless, the Department may apply the provisions, on a case-by-case basis, for purposes of information collection in accordance with 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3). (6/03, 6/04, 6/08)

(a) For the purposes of determining operational readiness following completion of physical construction, the Department may establish permit conditions, including but not limited to allowable waste feeds and operating conditions in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness sufficient to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Department may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to Section 270.42 (Permit modifications at the request of the permittee).

(1) Applicants must submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of 264.343 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates and the operating parameters identified in 264.345.

(2) The Department will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of 264.343 based on its engineering judgment.

(b) For the purposes of determining feasibility of compliance with the performance standards of 264.343 and of determining adequate operating conditions under 264.345, the Department must establish conditions in the permit for a new hazardous waste incinerator to be effective during the trial burn. (12/93)

(1) Applicants must propose a trial burn plan, prepared under paragraph (b)(2) of this section with a Part B of the permit application.

(2) The trial burn plan must include the following information:

(i) An analysis of each waste or mixture of wastes to be burned which includes:

(A) Heat value of the waste in the form and composition in which it will be burned.

(B) Viscosity (if applicable), or description of the physical form of the waste.

(C) An identification of any hazardous organic constituents listed in 261, Appendix VIII, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in 261, Appendix VIII which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified, and the basis for the exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods,"EPA Publication SW-846, as incorporated by reference in 260.11 and 270.6, or other equivalent. (12/93)

(D) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11 and 270.6, or their equivalent. (12/93)

(ii) A detailed engineering description of the incinerator for which the permit is sought including:

(A) Manufacturer's name and model number of incinerator (if available).

(B) Type of incinerator.

(C) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

(D) Description of the auxiliary fuel system (type/feed).

(E) Capacity of prime mover.

(F) Description of automatic waste feed cut-off system(s).

(G) Stack gas monitoring and pollution control equipment.

(H) Nozzle and burner design.

(I) Construction materials.

(J) Location and description of temperature, pressure, and flow indicating and control devices.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) A detailed test schedule for each waste for which the trial burn is planned including

date(s), duration, quantity of waste to be burned, and other factors relevant to the Department decision under paragraph (b)(5) of this section.

(v) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(vi) A description of, and planned operating conditions for, any emission control equipment which will be used.

(vii) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(viii) Such other information as the Department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(5) of this section.

(3) The Department, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph. (12/93)

(4) Based on the waste analysis data in the trial burn plan, the Department will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Department based on its estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in 261, subpart D, the hazardous waste organic constituent or constituents identified in Appendix VII of that part as the basis for listing.

(5) The Department shall approve a trial burn plan if he finds that: (12/93)

(i) The trial burn is likely to determine whether the incinerator performance standard required by 264.343 can be met;

(ii) The trial burn itself will not present an imminent hazard to human health or the environment;

(iii) The trial burn will help the Department to determine operating requirements to be specified under 264.345; and

(iv) The information sought in paragraphs (b)(5) (i) and (ii) of this section cannot reasonably be developed through other means.

(6) The Department must send a notice to all persons on the facility mailing list as set forth in

270.62 Hazardous waste incinerator permits

124.10(c)(1)(iv) and to the appropriate units of State and local government as set forth in 124.10(c)(1)(v) announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the Department has issued such notice. (9/98)

(i) This notice must be mailed within a reasonable time period before the scheduled trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the permitting agency.

(ii) This notice must contain:

(A) The name and telephone number of the applicant's contact person;

(B) The name and telephone number of the permitting agency's contact office;

(C) The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and

(D) An expected time period for commencement and completion of the trial burn.

(7) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations: (9/98)

(i) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(ii) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O_2) and hydrogen chloride (HCl).

(iii) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(iv) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in 264.343(a) of this chapter.

(v) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with 264.343(b) of this chapter.

(vi) A computation of particulate emissions, in accordance with 264.343(c) of this chapter.

(vii) An identification of sources of fugitive emissions and their means of control.

(viii) A measurement of average maximum, and minimum temperatures and combustion gas velocity.

(ix) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(x) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the

performance standards in 264.343 of this chapter and to establish the operating conditions required by 264.345 of this chapter as necessary to meet that performance standard.

(8) The applicant must submit to the Department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (b)(6) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Department. (12/93)

(9) All data collected during any trial burn must be submitted to the Department following the completion of the trial burn.

(10) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under 270.11.

(11) Based on the results of the trial burn, the Department shall set the operating requirements in the final permit according to 264.345. The permit modification shall proceed according to section 270.42. (12/93)

(c) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Department may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of 264.345 in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Department. (12/93)

(1) Applicants must submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of 264.343 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters in section 264.345.

(2) The Department will review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements for this period most likely to meet the performance standards of 264.343 based on his engineering judgment.

(d) For the purpose of determining feasibility of compliance with the performance standards of 264.343 and of determining adequate operating conditions under 264.345, the applicant for a permit for an existing hazardous waste incinerator must prepare and submit a trial burn plan and perform a trial burn in accordance with 270.19(b) and paragraphs (b)(2) through (b)(5) and (b)(7) through (b)(10) of this section or, instead, submit other information as specified in 270.19(c). The Department must announce its intention to approve the trial burn plan in accordance with the timing and distribution requirements of paragraph (b)(6) of this section. The contents of the notice must include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the permitting Department; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for Department approval of the plan and the time period during which the trial burn would be conducted. Applicants submitting information under 270.19(a) are exempt from compliance with 264.343 and 264.345 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(7) of this section, with Part B of the permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Department to establish a later date for submission of the Part B application or the trial burn results. Trial burn results must be submitted prior to issuance of the permit. When the applicantsubmits a trial burn plan with Part B of the permit application, the Department will specify a time period prior to permit issuance in which the trial burn must be conducted and the results submitted. (11/90, 12/92, 12/93, 9/98, 11/99, 8/00)

270.63 Permits for land treatment demonstrations using field test or laboratory analyses

(a) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of 264.272, the Department may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in 264.272(c). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction operation and maintenance of the land treatment unit. (12/93)

(1) The Department may issue a two-phase facility permit if he finds that, based on information submitted in Part B of the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(2) If the Department finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of Subpart M, it will issue a treatment demonstration permit covering only the field test or laboratory analyses.

(b) If the Department finds that a phased permit may be issued, it will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration cleanup activities, and any other conditions which the Department finds may be necessary under 264.272(c). The Department will include conditions in the second phase of the facility permit to attempt to meet all subpart M requirements pertaining to unit design, construction, operation, and maintenance. The Department will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Part B application.

(1) The first phase of the permit will be effective as provided in 124.15(b).

(2) The second phase of the permit will be effective as provided in paragraph (d) of this section.

(c) When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he must submit to the Department a certification, signed by a person authorized to sign a permit application or report under section 270.11, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator must also submit all data collected during the field tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Department approves a later date.

(d) If the Department determines that the results of the field tests or laboratory analyses meet the requirements of 264.272, it will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with 264, subpart M, based upon the results of the field tests or laboratory analyses. (11/90)

(1) This permit modification may proceed under 270.42, or otherwise will proceed as a modification under section 270.41(a)(2). If such modifications are necessary, the second phase of the permit will become effective only after those modifications have been made.

(2) If no modifications of the second phase of the permit are necessary, the Department will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in 124.15(b).

(3) If modifications under 124.15(a)(2) are necessary, the second phase of the permit will become effective only after those modifications have been made.

270.64 [Reserved]

270.65 Research Development, and Demonstration Permits

(a) The Department may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under 264 or 266. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits: (12/93)

(1) Shall provide for the construction of such facilities as necessary, and for operation of the facility for not longer than one year unless renewed as provided in paragraph (d) of this section, and (12/93)

(2) Shall provide for the receipt and treatment by the facility of only those types and quantities of hazardous waste which the Department deems necessary for purposes of determining the efficacy and performance capabilities of the technology or process and the effects of such technology or process on human health and the environment, and (12/93)

(3) Shall include such requirements as the Department deems necessary to protect human health and the environment (including, but not limited to, requirements regarding monitoring, operation, financial responsibility, closure, and remedial action), and such requirements as the Department deems necessary regarding testing and

providing of information to the Department with respect to the operation of the facility. (12/93)

(b) For the purpose of expediting review and issuance of permits under this section, the Department may, consistent with the protection of human health and the environment, modify or waive permit application and permit issuance requirements in 124 and 270 except that there may be no modification or waiver of regulations regarding financial responsibility (including insurance) or of procedures regarding public participation.

(c) The Department may order an immediate termination of all operations at the facility at any time it determines that termination is necessary to protect human health and the environment.

(d) Any permit issued under this section may be renewed not more than three times. Each such renewal shall be for a period of not more than 1 year. (11/90; 12/93)

270.66 Permits for boilers and industrial furnaces burning hazardous waste

When an owner or operator of a cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace becomes subject to RCRA permit requirements after October 12, 2005 or when an owner or operator of an existing cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace demonstrates compliance with the air emission standards and limitations in 40 CFR part 63, Subpart EEE, (i.e., by conducting a comprehensive performance test and submitting a Notification of Compliance under 63.1207(j) and 63.1210 (d) documenting compliance with all applicable requirements of part 63, subpart EEE), the requirements do not apply. The requirements of this section do apply, however, if the Department determines certain provisions are necessary to ensure compliance with 266.102(e)(1) and 266.102(e)(2)(iii) if you elect to comply with 270.235(a)(1)(i) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events; or if you are an area source and elect to comply with 266.105, 266.106, and 266.107 standards and associated requirements for particulate matter, hydrogen chloride and chlorine gas, and nonmercury metals; or the Department determines certain provisions apply, on a case-by-case basis, for purposes of information collection in accordance with 270.10(k), 270.10(l), 270.32(b)(2), and 270.32(b)(3) .(12/95; 5/96, 6/03, 6/04, 6/08)

(a) General. Owners and operators of new boilers and industrial furnaces (those not operating under the interim status standards of 266.103 of this chapter) are subject to paragraphs (b) through (f) of this section. Boilers and industrial furnaces operating under the interim status standards of 266.103 of this chapter are subject to paragraph (g) of this section.

(b) Permit operating periods for new boilers and industrial furnaces. A permit for a new boiler or industrial furnace shall specify appropriate conditions for the following operating periods:

(1) Pretrial burn period. For the period beginning with initial introduction of hazardous waste and ending with initiation of the trial burn, and only for the minimum time required to bring the boiler or industrial furnace to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time when burning hazardous waste, the Director must establish in the Pretrial Burn Period of the permit conditions, including but not limited to, allowable hazardous waste feed rates and operating conditions. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to 270.42.

(i) Applicants must submit a statement, with Part B of the permit application, that suggests the conditions necessary to operate in compliance with the standards of 266.104 through 266.107 of this chapter during this period. This statement should include, at a minimum, restrictions on the applicable operating requirements identified in 266.102(e) of this chapter.

(ii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of 266.104 through 266.107 of this chapter based on his/her engineering judgment.

(2) Trial burn period. For the duration of the trial burn, the Director must establish conditions in the permit for the purposes of determining feasibility of compliance with the performance standards of 266.104 through 266.107 of this chapter and determining adequate operating conditions under 266.102(e) of this chapter. Applicants must propose a trial burn plan, prepared under paragraph (c) of this section, to be submitted with Part B of the permit application.

(3) Post-trial burn period.

(i) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the

trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Director to reflect the trial burn results, the Director will establish the operating requirements most likely to ensure compliance with the performance standards of 266.104 through 266.107 of this chapter based on his engineering judgment.

(ii) Applicants must submit a statement, with Part B of the application, that identifies the conditions necessary to operate during this period in compliance with the performance standards of 266.104 through 266.107 of this chapter. This statement should include, at a minimum, restrictions on the operating requirements provided by 266.102(e) of this chapter.

(iii) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify requirements for this period sufficient to meet the performance standards of 266.104 through 266.107 of this chapter based on his/her engineering judgment.

(4) Final permit period. For the final period of operation, the Director will develop operating requirements in conformance with 266.102(e) of this chapter that reflect conditions in the trial burn plan and are likely to ensure compliance with the performance standards of 266.104 through 266.107 of this chapter. Based on the trial burn results, the Director shall make any necessary modifications to the operating requirements to ensure compliance with the performance standards. The permit modification shall proceed according to 270.42.

(c) Requirements for trial burn plans. The trial burn plan must include the following information. The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph:

(1) An analysis of each feed stream, including hazardous waste, other fuels, and industrial furnace feed stocks, as fired, that includes:

(i) Heating value, levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, silver, thallium, total chlorine/chloride, and ash;

(ii) Viscosity or description of the physical form of the feed stream;

(2) An analysis of each hazardous waste, as fired, including:

(i) An identification of any hazardous organic constituents listed in appendix VIII, part 261, of this chapter that are present in the feed stream, except that the applicant need not analyze for constituents listed in appendix VIII that would reasonably not be expected to be found in the hazardous waste. The constituents excluded from analysis must be identified and the basis for this exclusion explained. The waste analysis must be conducted in accordance with analytical techniques specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11 and 270.6, or their equivalent. (12/93)

(ii) An approximate quantification of the hazardous constituents identified in the hazardous waste, within the precision produced by the analytical methods specified in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," EPA Publication SW-846, as incorporated by reference in 260.11 and 270.6, or other equivalent. (12/93)

(iii) A description of blending procedures, if applicable, prior to firing the hazardous waste, including a detailed analysis of the hazardous waste prior to blending, an analysis of the material with which the hazardous waste is blended, and blending ratios.

(3) A detailed engineering description of the boiler or industrial furnace, including:

(i) Manufacturer's name and model number of the boiler or industrial furnace;

(ii) Type of boiler or industrial furnace;

(iii) Maximum design capacity in appropriate units;

(iv) Description of the feed system for the hazardous waste, and, as appropriate, other fuels and industrial furnace feedstocks;

(v) Capacity of hazardous waste feed system;

(vi) Description of automatic hazardous waste feed cutoff system(s); (12/93)

(vii) Description of any air pollution control system; and (12/93)

(viii) Description of stack gas monitoring and any pollution control monitoring systems.

(4) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(5) A detailed test schedule for each hazardous waste for which the trial burn is planned, including date(s), duration, quantity of hazardous

waste to be burned, and other factors relevant to the Director's decision under paragraph (b)(2) of this section.

(6) A detailed test protocol, including, for each hazardous waste identified, the ranges of hazardous waste feed rate, and, as appropriate, the feed rates of other fuels and industrial furnace feedstocks, and any other relevant parameters that may affect the ability of the boiler or industrial furnace to meet the performance standards in 266.104 through 266.107 of this chapter.

(7) A description of, and planned operating conditions for, any emission control equipment that will be used.

(8) Procedures for rapidly stopping the hazardous waste feed and controlling emissions in the event of an equipment malfunction.

(9) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(2) of this section.

(d) Trial burn procedures.

(1) A trial burn must be conducted to demonstrate conformance with the standards of 266.104 through 266.107 of this chapter under an approved trial burn plan.

(2) The Director shall approve a trial burn plan if he/she finds that:

(i) The trial burn is likely to determine whether the boiler or industrial furnace can meet the performance standards of 266.104 through 266.107 of this chapter;

(ii) The trial burn itself will not present an imminent hazard to human health and the environment;

(iii) The trial burn will help the Director to determine operating requirements to be specified under 266.102(e) of this chapter; and

(iv) The information sought in the trial burn cannot reasonably be developed through other means.

(3) The Department must send a notice to all persons on the facility mailing list as set forth in 124.10(c)(1)(iv) and to the appropriate units of State and local government as set forth in 124.10(c)(1)(v) announcing the scheduled commencement and completion dates for the trial burn. The applicant may not commence the trial burn until after the Department has issued such notice. (9/98)

(i) This notice must be mailed within a reasonable time period before the trial burn. An additional notice is not required if the trial burn is delayed due to circumstances beyond the control of the facility or the permitting agency.

(ii) This notice must contain:

(A) The name and telephone number of applicant's contact person;

(B) The name and telephone number of the permitting agency contact office;

(C) The location where the approved trial burn plan and any supporting documents can be reviewed and copied; and

(D) An expected time period for commencement and completion of the trial burn.

(4) The applicant must submit to the Department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (c) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Department.

(5) All data collected during any trial burn must be submitted to the Department following completion of the trial burn.

(6) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under 270.11.

(e) Special procedures for DRE trial burns. When a DRE trial burn is required under 266.104(a) of this chapter, the Director will specify (based on the hazardous waste analysis data and other information in the trial burn plan) as trial Principal Organic Hazardous Constituents (POHCs) those compounds for which destruction and removal efficiencies must be calculated during the trial burn. These trial Pooches will be specified by the Director based on information including his/her estimate of the difficulty of destroying the constituents identified in the hazardous waste analysis, their concentrations or mass in the hazardous waste feed, and, for hazardous waste containing or derived from wastes listed in part 261, subpart D of this chapter, the hazardous waste organic constituent(s) identified in Appendix VII of that part as the basis for listing.

(f) Determinations based on trial burn. During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(1) A quantitative analysis of the levels of antimony, arsenic, barium, beryllium, cadmium, chromium, lead, mercury, thallium, silver, and chlorine/chloride, in the feed streams (hazardous waste, other fuels, and industrial furnace feedstocks);

(2) When a DRE trial burn is required under 266.104(a) of this chapter:

(i) A quantitative analysis of the trial Pooches in the hazardous waste feed;

(ii) A quantitative analysis of the stack gas for the concentration and mass emissions of the trial POHCs; and

(iii) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in 266.104(a) of this chapter;

(3) When a trial burn for chlorinated dioxins and furans is required under 266.104(e) of this chapter, a quantitative analysis of the stack gas for the concentration and mass emission rate of the 2,3,7,8- chlorinated tetra-octa congeners of chlorinated dibenzop- dioxins and furans, and a computation showing conformance with the emission standard;

(4) When a trial burn for particulate matter, metals, or Hcl/Cl_2 is required under 266.105, 266.106(c) or (d), or 266.107 (b)(2) or (c) of this chapter, a quantitative analysis of the stack gas for the concentrations and mass emissions of particulate matter, metals, or hydrogen chloride (Hcl) and chlorine (Cl_2), and computations showing conformance with the applicable emission performance standards;

(5) When a trial burn for DRE, metals, or Hcl/Cl_2 is required under 266.104(a), 266.106 (c) or (d), or 266.107 (b)(2) or (c) of this chapter, a quantitative analysis of the scrubber water (if any), ash residues, other residues, and products for the purpose of estimating the fate of the trial POHCs, metals, and chlorine/chloride;

(6) An identification of sources of fugitive emissions and their means of control;

(7) A continuous measurement of carbon monoxide (CO), oxygen, and where required, hydrocarbons (HC), in the stack gas; and

(8) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in 266.104 through 266.107 of this chapter and to establish the operating conditions required by 266.102(e) of this chapter as necessary to meet those performance standards.

(g) Interim status boilers and industrial furnaces. For the purpose of determining feasibility of compliance with the performance standards of 266.104 through 266.107 of this chapter and of determining adequate operating conditions under 266.103 of this chapter, applicants owning or operating existing boilers or industrial furnaces operated under the interim status standards of 266.103 must either prepare and submit a trial burn plan and perform a trial burn in accordance with the requirements of this section or submit other

270.70 Qualifying for interim status information as specified in 270.22(a)(6). The Department must announce its intention to approve of the trial burn plan in accordance with the timing and distribution requirements of paragraph (d)(3) of this section. The contents of the notice must include: the name and telephone number of a contact person at the facility; the name and telephone number of a contact office at the permitting agency; the location where the trial burn plan and any supporting documents can be reviewed and copied; and a schedule of the activities that are required prior to permit issuance, including the anticipated time schedule for agency approval of the plan and the time periods during which the trial burn would be conducted. Applicants who submit a trial burn plan and receive approval before submission of the Part B permit application must complete the trial burn and submit the results specified in paragraph (f) of this section with the Part B permit application. If completion of this process conflicts with the date set for submissionof the Part B application, the applicant must contact the Department to establish a later date for submission of the Part B application or the trial burn results. If the applicant submits a trial burn plan with Part B of the permit application, the trial burn must be conducted and the results submitted within a time period prior to permit issuance to be specified by the Department. (9/98)

270.67 [Reserved]

270.68 Remedial Action Plans (RAPs).
Remedial Action Plans (RAPs) are special forms of permits that are regulated under subpart H of this part. (8/00)

270.69 [Reserved]

Subpart G - INTERIM STATUS

270.70 Qualifying for interim status

(a) Any person who owns or operates an "existing HWM facility" or a facility in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have a permit under this regulation shall have interim status and shall be treated as having been issued a permit to the extent he or she has: (12/93)

(1) Complied with the requirements of Section 44-56-120 of the S. C. Hazardous Waste Management Act pertaining to notification of hazardous waste activity and section 3010(a) of RCRA pertaining to notification of hazardous waste activity. (12/92)

[Comment: Some existing facilities may not be required to file a notification under section 3010(a) of RCRA. These facilities may qualify for interim status by meeting paragraph (a)(2) of this section.] (12/92; 12/93)

(2) Complied with the requirements of section 270.10 governing submission of Part A applications;

(3) Conducted the facility activity on an ongoing basis prior to the effective date of the statutory or regulatory changes.

(b) Failure to qualify for interim status. If the Department has reason to believe upon examination of a Part A application that it fails to meet the requirements of section 270.13, it shall notify the owner or operator in writing of the apparent deficiency. Such notice shall specify the grounds for the Department's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to such a notification and to explain or cure the alleged deficiency in his Part A application. If, after such notification and opportunity for response, the Department determines that the application is deficient it may take appropriate enforcement action.

(c) Paragraph (a) of this section shall not apply to any facility which has been previously denied a permit or if authority to operate the facility under these regulations has been previously terminated.

(d) As of December 25, 1992, any facility which fails to qualify for federal interim status for a newly regulated waste code or a newly regulated waste management unit promulgated pursuant to HSWA or who lost interim status for failing to certify under HSWA for any newly promulgated waste code or waste management unit, is also denied interim status under State law (rule). (12/92, see also 270.72(a)(6) below)

270.71 Operation during interim status

(a) During the interim status period the facility shall not:

(1) Treat, store, or dispose of hazardous waste not specified in Part A of the permit application;

(2) Employ processes not specified in Part A of the permit application; or

(3) Exceed the design capacities specified in Part A of the permit application.

(b) Interim status standards. During interim status, owners or operators shall comply with the interim status standards 265.

270.72 Changes during interim status

(a) Except as provided in paragraph (b), the owner or operator of an interim status facility may make the following changes at the facility: (11/90)

(1) Treatment, storage, or disposal of new hazardous wastes not previously identified in Part A of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the hazardous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part A permit application prior to such treatment, storage, or disposal;

(2) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part A permit application prior to such a change (along with a justification explaining the need for the change) and the Department approves the changes because:

(i) There is a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities, or

(ii) The change is necessary to comply with a Federal, State, or local requirement.

(3) Changes in the processes for the treatment, storage, or disposal of hazardous waste or addition of processes if the owner or operator submits a revised Part A permit application prior to such change (along with a justification explaining the need for the change) and the Department approves the change because:

(i) The change is necessary to prevent a threat to human health and the environment because of an emergency situation, or

(ii) The change is necessary to comply with a Federal, State, or local requirement.

(4) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised Part A permit application no later than 90 days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator shall comply with the requirements of part 265, subpart H (Financial Requirements), until the new owner or operator has demonstrated to the Department that he is complying with the requirements of that subpart. The new owner or operator must demonstrate compliance with subpart H requirements within six months of the date of the change in ownership or operational control of the facility. Upon demonstration to the Department by the new owner or operator of compliance with subpart H, the Department shall notify the old owner or operator in writing that he no longer needs to comply with Subpart H as of the date of demonstration. All other interim status duties are transferred effective

immediately upon the date of the change in ownership or operational control of the facility. (12/93)

(5) Changes made in accordance with an interim status corrective action order under Section 44-56-140 or issued by EPA under section 3008(h) or other Federal authority, or by a court in a judicial action brought by EPA or by an authorized State. Changes under this paragraph are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility. (12/92; 12/93)

(6) Addition of newly regulated units for the treatment, storage, or disposal of hazardous waste if the owner or operator submits a revised part A permit application on or before the date on which the unit becomes subject to the new requirements. (12/92; 12/93,11/99)

(b) Except as specifically allowed under this paragraph, changes listed under paragraph (a) of this section may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds 50 percent of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction: (11/90)

(1) Changes made solely for the purposes of complying with the requirements of 265.193 for tanks and ancillary equipment.

(2) If necessary to comply with Federal, State, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of replacement surface impoundments that satisfy the standards of this regulation or section 3004(o). (12/92)

(3) Changes that are necessary to allow owners or operators to continue handling newly listed or identified hazardous wastes that have been treated, stored, or disposed of at the facility prior to the effective date of the rule establishing the new listing or identification.

(4) Changes during closure of a facility or of a unit within a facility made in accordance with an approved closure plan.

(5) Changes necessary to comply with an interim status corrective action order issued under 44-56-140 or section 3008(h) or other authority, or by a court in a judicial proceeding, provided that such changes are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility. (12/92)

(6) Changes to treat or store, in tanks, containers, or containment buildings, hazardous

270.73 Termination of interim status

wastes subject to land disposal restrictions imposed by part 268 or 44-56- 30 or RCRA section 3004, provided that such changes are made solely for the purpose of complying with part 268 or 44-56-30 or RCRA section 3004. (12/92; 12/93)

(7) Addition of newly regulated units under paragraph (a)(6) of this section. (12/92)

(8) Changes necessary to comply with standards under 40 CFR part 63, Subpart EEE - National Emission Standards for Hazardous Air Pollutants From Hazardous Waste Combustors.

270.73 Termination of interim status
(11/90)

Interim status terminates when:

(a) Final administrative disposition of a permit application, except an application for a remedial action plan (RAP) under subpart H of this part, is made; or (8/00)

(b) Interim status is terminated as provided in Section 270.10(e)(5).

(c) For owners or operators of each land disposal facility which has been granted interim status prior to November 8, 1984, on November 8, 1985, unless:

(1) The owner or operator submits a Part B application for a permit for such facility prior to that date; and

(2) The owner or operator certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(d) For owners or operators of each land disposal facility which is in existence on the effective date of statutory or regulatory amendments under the Act that render the facility subject to the requirement to have a permit under this regulation and which is granted interim status, twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(1) Submits a Part B application for a permit for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

(2) Certifies that such facility is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(e) For owners or operators of any land disposal unit that is granted authority to operate under 270.72(a) (1), (2) or (3), on the date 12 months after the effective date of such requirement, unless the owner or operator certifies that such unit is in compliance with all applicable groundwater

monitoring and financial responsibility requirements.

(f) For owners and operators of each incinerator facility which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1989, unless the owner or operator of the facility submits a Part B application for a permit for an incinerator facility by November 8, 1986. (12/92)

(g) For owners or operators of any facility (other than a land disposal or an incinerator facility) which has achieved interim status prior to November 8, 1984, interim status terminates on November 8, 1992, unless the owner or operator of the facility submits a Part B application for a permit for the facility by November 8, 1988. (12/92)

(h) The Department determines that a facility's continuing violation of the standards included in 265 could pose a threat to the health of persons or to the environment and efforts by the Department have proven unsuccessful in obtaining compliance. (6/89)

Subpart H - REMEDIAL ACTION PLANS (RAPs)

(8/00)

270.79 Why is this subpart written in a special format?

This subpart is written in a special format to make it easier to understand the regulatory requirements. Like other regulations, this establishes enforceable legal requirements. For this Subpart, "I" and "you" refer to the owner/operator.

General Information

270.80 What is a RAP?

(a) A RAP is a special form of RCRA permit that you, as an owner or operator, may obtain, instead of a permit issued under 270.3 through 270.66, to authorize you to treat, store, or dispose of hazardous remediation waste (as defined in 260.10 of this chapter) at a remediation waste management site. A RAP may only be issued for the area of contamination where the remediation wastes to be managed under the RAP originated, or areas in close proximity to the contaminated area, except as allowed in limited circumstances under 270.230.

(b) The requirements in 270.3 through 270.66 do not apply to RAPs unless those requirements for traditional RCRA permits are specifically required under 270.80 through 270.230. The definitions in 270.2 apply to RAPs.

(c) Notwithstanding any other provision of this part or part 124 of this chapter, any document that meets the requirements in this section constitutes a RCRA permit under RCRA section 3005(c).

(d) A RAP may be:

(1) A stand-alone document that includes only the information and conditions required by this subpart; or

(2) Part (or parts) of another document that includes information and/or conditions for other activities at the remediation waste management site, in addition to the information and conditions required by this subpart.

(e) If you are treating, storing, or disposing of hazardous remediation wastes as part of a cleanup compelled by Federal or State cleanup authorities, your RAP does not affect your obligations under those authorities in any way.

(f) If you receive a RAP at a facility operating under interim status, the RAP does not terminate your interim status.

270.85 When do I need a RAP?

(a) Whenever you treat, store, or dispose of hazardous remediation wastes in a manner that requires a RCRA permit under 270.1, you must either obtain:

(1) A RCRA permit according to 270.3 through 270.66; or

(2) A RAP according to this subpart.

(b) Treatment units that use combustion of hazardous remediation wastes at a remediation waste management site are not eligible for RAPs under this Subpart.

(c) You may obtain a RAP for managing hazardous remediation waste at an already permitted RCRA facility. You must have these RAPs approved as a modification to your existing permit according to the requirements of 270.41 or 270.42 instead of the requirements in this Subpart. When you submit an application for such a modification, however, the information requirements in 270.42(a)(1)(i), (b)(1)(iv), and (c)(1)(iv) do not apply; instead, you must submit the information required under 270.110. When your permit is modified the RAP becomes part of the RCRA permit. Therefore when your permit (including the RAP portion) is modified, revoked and reissued, terminated or when it expires, it will be modified according to the applicable requirements in 270.40 through 270.42, revoked and reissued according to the applicable requirements in 270.41 and 270.43, terminated according to the applicable requirements in 270.43, and expire according to the applicable requirements in 270.50 and 270.51.

270.90 Does my RAP grant me any rights or relieve me of any obligations?
The provisions of 270.4 apply to RAPs. (Note: The provisions of 270.4(a) provide you assurance that, as long as you comply with your RAP, the Department will consider you in compliance with Subtitle C of RCRA, and will not take enforcement actions against you. However, you should be aware of four exceptions to this provision that are listed in 270.4.)

Applying for a RAP

270.95 How do I apply for a RAP?
To apply for a RAP, you must complete an application, sign it, and submit it to the Department according to the requirements in this subpart.

270.100 Who must obtain a RAP?
When a facility or remediation waste management site is owned by one person, but the treatment, storage or disposal activities are operated by another person, it is the operator's duty to obtain a RAP, except that the owner must also sign the RAP application.

270.105 Who must sign the application and any required reports for a RAP?
Both the owner and the operator must sign the RAP application and any required reports according to 270.11(a), (b), and (c). In the application, both the owner and the operator must also make the certification required under 270.11(d)(1). However, the owner may choose the alternative certification under 270.11(d)(2) if the operator certifies under 270.11(d)(1).

270.110 What must I include in my application for a RAP?
You must include the following information in your application for a RAP:

(a) The name, address, and EPA identification number of the remediation waste management site;

(b) The name, address, and telephone number of the owner and operator;

(c) The latitude and longitude of the site;

(d) The United States Geological Survey (USGS) or county map showing the location of the remediation waste management site;

(e) A scaled drawing of the remediation waste management site showing:

(1) The remediation waste management site boundaries;

(2) Any significant physical structures; and

(3) The boundary of all areas on-site where remediation waste is to be treated, stored or disposed;

(f) A specification of the hazardous remediation waste to be treated, stored or disposed of at the facility or remediation waste management site. This must include information on:

(1) Constituent concentrations and other properties of the hazardous remediation wastes that may affect how such materials should be treated and/or otherwise managed;

(2) An estimate of the quantity of these wastes; and

(3) A description of the processes you will use to treat, store, or dispose of this waste including technologies, handling systems, design and operating parameters you will use to treat hazardous remediation wastes before disposing of them according to the LDR standards of part 268 of this chapter, as applicable;

(g) Enough information to demonstrate that operations that follow the provisions in your RAP application will ensure compliance with applicable requirements of parts 264, 266, and 268 of this chapter;

(h) Such information as may be necessary to enable the Department to carry out its duties under other Federal laws as is required for traditional RCRA permits under 270.14(b)(20);

(i) Any other information the Department decides is necessary for demonstrating compliance with this subpart or for determining any additional RAP conditions that are necessary to protect human health and the environment.

270.115 What if I want to keep this information confidential?
The South Carolina Freedom of Information Act may allow you to claim as confidential any or all of the information you submit to the Department under this subpart. You must assert any such claim at the time that you submit your RAP application or other submissions by stamping the words "confidential business information" on each page containing such information. If you do assert a claim at the time you submit the information, the Department will treat the information according to established procedures which will give you an opportunity to demonstrate that the information for which protection is sought falls into one of the exceptions under Code Section 30-4-40. If you do not assert a claim at the time you submit the information, the Department may make the information available to the public without further notice to you. The Department will deny any requests for confidentiality of your name and/or address.

270.120 To whom must I submit my RAP application?
You must submit your application for a RAP to the Department for approval.

270.125 If I submit my RAP application as part of another document, what must I do?
If you submit your application for a RAP as a part of another document, you must clearly identify the components of that document that constitute your RAP application.
Getting a RAP Approved

270.130 What is the process for approving or denying my application for a RAP?
(a) If the Department tentatively finds that your RAP application includes all of the information required by 270.110 and that your proposed remediation waste management activities meet the regulatory standards, the Department will make a tentative decision to approve your RAP application. The Department will then prepare a draft RAP and provide an opportunity for public comment before making a final decision on your RAP application, according to this subpart.
(b) If the Department tentatively finds that your RAP application does not include all of the information required by 270.110 or that your proposed remediation waste management activities do not meet the regulatory standards, the Department may request additional information from you or ask you to correct deficiencies in your application. If you fail or refuse to provide any additional information the Department requests, or to correct any deficiencies in your RAP application, the Department may make a tentative decision to deny your RAP application. After making this tentative decision, the Department will prepare a notice of intent to deny your RAP application ("notice of intent to deny") and provide an opportunity for public comment before making a final decision on your RAP application, according to the requirements in this Subpart. The Department may deny the RAP application either in its entirety or in part.

270.135 What must the Department include in a draft RAP?
If the Department prepares a draft RAP, it must include the:
(a) Information required under 270.110(a) through (f);
(b) The following terms and conditions:
(1) Terms and conditions necessary to ensure that the operating requirements specified in your RAP comply with applicable requirements of parts 264, 266, and 268 of this chapter (including any recordkeeping and reporting requirements). In satisfying this provision, the Department may incorporate, expressly or by reference, applicable requirements of parts 264, 266, and 268 of this chapter into the RAP or establish site-specific conditions as required or allowed by parts 264, 266, and 268 of this chapter;
(2) Terms and conditions in 270.30;
(3) Terms and conditions for modifying, revoking and reissuing, and terminating your RAP, as provided in 270.170; and
(4) Any additional terms or conditions that the Department determines are necessary to protect human health and the environment, including any terms and conditions necessary to respond to spills and leaks during use of any units permitted under the RAP; and
(c) If the draft RAP is part of another document, as described in 270.80(d)(2), the Department must clearly identify the components of that document that constitute the draft RAP.

270.140 What else must the Department prepare in addition to the draft RAP or notice of intent to deny?
Once the Department has prepared the draft RAP or notice of intent to deny, it must then:
(a) Prepare a statement of basis that briefly describes the derivation of the conditions of the draft RAP and the reasons for them, or the rationale for the notice of intent to deny;
(b) Compile an administrative record, including:
(1) The RAP application, and any supporting data furnished by the applicant;
(2) The draft RAP or notice of intent to deny;
(3) The statement of basis and all documents cited therein (material readily available at the issuing Regional office or published material that is generally available need not be physically included with the rest of the record, as long as it is specifically referred to in the statement of basis); and
(4) Any other documents that support the decision to approve or deny the RAP; and
(c) Make information contained in the administrative record available for review by the public upon request.

270.145 What are the procedures for public comment on the draft RAP or notice of intent to deny?
(a) The Department must:

(1) Send notice to you of its intention to approve or deny your RAP application, and send you a copy of the statement of basis;

(2) Publish a notice of its intention to approve or deny your RAP application in a major local newspaper of general circulation;

(3) Broadcast its intention to approve or deny your RAP application over a local radio station; and

(4) Send a notice of its intention to approve or deny your RAP application to each unit of local government having jurisdiction over the area in which your site is located, and to each State agency having any authority under State law with respect to any construction or operations at the site.

(b) The notice required by paragraph (a) of this section must provide an opportunity for the public to submit written comments on the draft RAP or notice of intent to deny within at least 45 days.

(c) The notice required by paragraph (a) of this section must include:

(1) The name and address of the office processing the RAP application;

(2) The name and address of the RAP applicant, and if different, the remediation waste management site or activity the RAP will regulate;

(3) A brief description of the activity the RAP will regulate;

(4) The name, address and telephone number of a person from whom interested persons may obtain further information, including copies of the draft RAP or notice of intent to deny, statement of basis, and the RAP application;

(5) A brief description of the comment procedures in this section, and any other procedures by which the public may participate in the RAP decision;

(6) If a hearing is scheduled, the date, time, location and purpose of the hearing;

(7) If a hearing is not scheduled, a statement of procedures to request a hearing;

(8) The location of the administrative record, and times when it will be open for public inspection; and

(9) Any additional information the Department considers necessary or proper.

(d) If, within the comment period, the Department receives written notice of opposition to its intention to approve or deny your RAP application and a request for a hearing, the Department must hold an informal public hearing to discuss issues relating to the approval or denial of your RAP application. The Department may also determine on its own initiative that an informal hearing is appropriate. The hearing must include anopportunity for any person to present written or oral comments. Whenever possible, the Department must schedule this hearing at a location convenient to the nearest population center to the remediation waste management site and give notice according to the requirements in paragraph (a) of this section. This notice must, at a minimum, include the information required by paragraph (c) of this section and:

(1) Reference to the date of any previous public notices relating to the RAP application;

(2) The date, time and place of the hearing; and

(3) A brief description of the nature and purpose of the hearing, including the applicable rules and procedures.

270.150 How will the Department make a final decision on my RAP application?

(a) The Department must consider and respond to any significant comments raised during the public comment period, or during any hearing on the draft RAP or notice of intent to deny, and revise your draft RAP based on those comments, as appropriate.

(b) If the Department determines that your RAP includes the information and terms and conditions required in 270.135, then it will issue a final decision approving your RAP and, in writing, notify you and all commenters on your draft RAP that your RAP application has been approved.

(c) If the Department determines that your RAP does not include the information required in 270.135, then it will issue a final decision denying your RAP and, in writing, notify you and all commenters on your draft RAP that your RAP application has been denied.

(d) If the Department's final decision is that the tentative decision to deny the RAP application was incorrect, it will withdraw the notice of intent to deny and proceed to prepare a draft RAP, according to the requirements in this subpart.

(e) When the Department issues its final RAP decision, it must refer to the procedures for appealing the decision under 270.155.

(f) Before issuing the final RAP decision, the Department must compile an administrative record. Material readily available at the Department or published materials which are generally available and which are included in the administrative record need not be physically included with the rest of the record as long as it is specifically referred to in the statement of basis or the response to comments. The administrative record for the final RAP must include information in the administrative record for the draft RAP (see 270.140(b)) and:

(1) All comments received during the public comment period;

(2) Tapes or transcripts of any hearings;

(3) Any written materials submitted at these hearings;

(4) The responses to comments;

(5) Any new material placed in the record since the draft RAP was issued;

(6) Any other documents supporting the RAP; and

(7) A copy of the final RAP.

(g) The Department must make information contained in the administrative record available for review by the public upon request.

270.155 May the decision to approve or deny my RAP application be administratively appealed?

(a) Any commenter on the draft RAP or notice of intent to deny, or any participant in any public hearing(s) on the draft RAP, may appeal the Department's decision to approve or deny your RAP application to the Department's Board under 124.19 of this chapter. Any person who did not file comments, or did not participate in any public hearing(s) on the draft RAP, may petition for administrative review only to the extent of the changes from the draft to the final RAP decision. Appeals of RAPs may be made to the same extent as for final permit decisions under 124.15 of this chapter (or a decision under 270.29 to deny a permit for the active life of a RCRA hazardous waste management facility or unit). Instead of the notice required under 124.19(c) and 124.10 of this chapter, the Department will give public notice of any grant of review of RAPs by the Board of Health and Environmental Control through the same means used to provide notice under 270.145. The notice will include:

(1) The briefing schedule for the appeal as provided by the Board;

(2) A statement that any interested person may file an amicus brief with the Board; and

(3) The information specified in 270.145(c), as appropriate.

(b) This appeal is a prerequisite to seeking judicial review of these actions.

270.160 When does my RAP become effective?

Your RAP becomes effective 15 days after the Department notifies you and all commenters that your RAP is approved unless:

(a) The Department specifies a later effective date in its decision;

(b) You or another person has appealed your RAP under 270.155 (if your RAP is appealed, and the request for review is granted under 270.155, conditions of your RAP are stayed according to 124.16 of this chapter); or

(c) No commenters requested a change in the draft RAP, in which case the RAP becomes effective immediately when it is issued.

270.165 When may I begin physical construction of new units permitted under the RAP?

You must not begin physical construction of new units permitted under the RAP for treating, storing or disposing of hazardous remediation waste before receiving a finally effective RAP.

How May my RAP be Modified, Revoked and Reissued, or Terminated?

270.170 After my RAP is issued, how may it be modified, revoked and reissued, or terminated?

In your RAP, the Department must specify, either directly or by reference, procedures for future modifications, revocations and reissuance, or terminations of your RAP. These procedures must provide adequate opportunities for public review and comment on any modification, revocation and reissuance, or termination that would significantly change your management of your remediation waste, or that otherwise merits public review and comment. If your RAP has been incorporated into a traditional RCRA permit, as allowed under 270.85(c), then the RAP will be modified according to the applicable requirements in 270.40 through 270.42, revoked and reissued according to the applicable requirements in 270.41 and 270.43, or terminated according to the applicable requirements of 270.43.

270.175 For what reasons may the Department choose to modify my final RAP?

(a) The Department may modify your final RAP on its own initiative only if one or more of the following reasons listed in this section exist(s). If one or more of these reasons do not exist, then the Department will not modify your final RAP, except at your request. Reasons for modification are:

(1) You made material and substantial alterations or additions to the activity that justify applying different conditions;

(2) The Department finds new information that was not available at the time of RAP issuance and would have justified applying different RAP conditions at the time of issuance;

(3) The standards or regulations on which the RAP was based have changed because of new or amended statutes, standards or regulations, or by judicial decision after the RAP was issued;

(4) If your RAP includes any schedules of compliance, the Department may find reasons to modify your compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which you as the owner/operator have little or no control and for which there is no reasonably available remedy;

(5) You are not in compliance with conditions of your RAP;

(6) You failed in the application or during the RAP issuance process to disclose fully all relevant facts, or you misrepresented any relevant facts at the time;

(7) The Department has determined that the activity authorized by your RAP endangers human health or the environment and can only be remedied by modifying; or

(8) You have notified the Department (as required in the RAP under 270.30(l)(3)) of a proposed transfer of a RAP.

(b) Notwithstanding any other provision in this section, when the Department reviews a RAP for a land disposal facility under 270.195, it may modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in parts 124, 260 through 266 and 270 of this chapter.

(c) The Department will not reevaluate the suitability of the facility location at the time of RAP modification unless new information or standards indicate that a threat to human health or the environment exists that was unknown when the RAP was issued.

270.180 For what reasons may the Department choose to revoke and reissue my final RAP?

(a) The Department may revoke and reissue your final RAP on its own initiative only if one or more reasons for revocation and reissuance exist(s). If one or more reasons do not exist, then the Department will not modify or revoke and reissue your final RAP, except at your request. Reasons for modification or revocation and reissuance are the same as the reasons listed for RAP modifications in 270.175(a)(5) through (8) if the Department determines that revocation and reissuance of your RAP is appropriate.

(b) The Department will not reevaluate the suitability of the facility location at the time of RAP revocation and reissuance, unless new information or standards indicate that a threat to human health or the environment exists that was unknown when the RAP was issued.

270.185 For what reasons may the Department choose to terminate my final RAP, or deny my renewal application?

The Department may terminate your final RAP on its own initiative, or deny your renewal application for the same reasons as those listed for RAP modifications in 270.175(a)(5) through (7) if the Department determines that termination of your RAP or denial of your RAP renewal application is appropriate.

270.190 May the decision to approve or deny a modification, revocation and reissuance, or termination of my RAP be administratively appealed?

(a) Any commenter on the modification, revocation and reissuance or termination, or any person who participated in any hearing(s) on these actions, may appeal the Department's decision to approve a modification, revocation and reissuance, or termination of your RAP, according to 270.155. Any person who did not file comments or did not participate in any public hearing(s) on the modification, revocation and reissuance or termination, may petition for administrative review only of the changes from the draft to the final RAP decision.

270.195 When will my RAP expire?

RAPs must be issued for a fixed term, not to exceed 10 years, although they may be renewed upon approval by the Department in fixed increments of no more than ten years. In addition, the Department must review any RAP for hazardous waste land disposal five years after the date of issuance or reissuance and you or the Department must follow the requirements for modifying your RAP as necessary to assure that you continue to comply with currently applicable requirements in RCRA sections 3004 and 3005.

270.200 How may I renew my RAP if it is expiring?

If you wish to renew your expiring RAP, you must follow the process for application for and issuance of RAPs in this subpart.

270.205 What happens if I have applied correctly for a RAP renewal but have not received approval by the time my old RAP expires?

If you have submitted a timely and complete application for a RAP renewal, but the Department, through no fault of yours, has not issued a new RAP with an effective date on or before the expiration date of your previous RAP, your previous RAP

conditions continue in force until the effective date of your new RAP or RAP denial.

Operating Under Your RAP

270.210 What records must I maintain concerning my RAP?

You are required to keep records of:

(a) All data used to complete RAP applications and any supplemental information that you submit for a period of at least 3 years from the date the application is signed; and

(b) Any operating and/or other records the Department requires you to maintain as a condition of your RAP.

270.215 How are time periods in the requirements in this subpart and my RAP computed?

(a) Any time period scheduled to begin on the occurrence of an act or event must begin on the day after the act or event. (For example, if your RAP specifies that you must close a staging pile within 180 days after the operating term for that staging pile expires, and the operating term expires on June 1, then June 2 counts as day one of your 180 days, and you would have to complete closure by November 28.)

(b) Any time period scheduled to begin before the occurrence of an act or event must be computed so that the period ends on the day before the act or event. (For example, if you are transferring ownership or operational control of your site, and wish to transfer your RAP, the new owner or operator must submit a revised RAP application no later than 90 days before the scheduled change. Therefore, if you plan to change ownership on January 1, the new owner/operator must submit the revised RAP application no later than October 3, so that the 90th day would be December 31.)

(c) If the final day of any time period falls on a weekend or legal holiday, the time period must be extended to the next working day. (For example, if you wish to appeal the Department's decision to modify your RAP, then you must petition the Department of Health and Environmental Control within 15 days after the Department has issued the final RAP decision. If the 30th day falls on Sunday, then you may submit your appeal by the Monday after. If the 30th day falls on July 4th, then you may submit your appeal by July 5th.)

(d) Except for filing petitions of final RAP decisions, whenever a party or interested person has the right to or is required to act within a prescribed period after the service of notice or other paper upon him by mail, 3 days must be added to the prescribed term. Petitions of RAP decisions must be received by the Clerk of the Board on or before the fifteenth day after you receive the final decision.

270.220 How may I transfer my RAP to a new owner or operator?

(a) If you wish to transfer your RAP to a new owner or operator, you must follow the requirements specified in your RAP for RAP modification to identify the new owner or operator, and incorporate any other necessary requirements. These modifications do not constitute "significant" modifications for purposes of 270.170. The new owner/operator must submit a revised RAP application no later than 90 days before the scheduled change along with a written agreement containing a specific date for transfer of RAP responsibility between you and the new permittees.

(b) When a transfer of ownership or operational control occurs, you as the old owner or operator must comply with the applicable requirements in part 264, subpart H (Financial Requirements), of this chapter until the new owner or operator has demonstrated that he is complying with the requirements in that subpart. The new owner or operator must demonstrate compliance with part 264, subpart H, of this chapter within six months of the date of the change in ownership or operational control of the facility or remediation waste management site. When the new owner/operator demonstrates compliance with part 264, subpart H, of this chapter to the Department, the Department will notify you that you no longer need to comply with part 264, subpart H, of this chapter as of the date of demonstration.

270.225 What must the State report about noncompliance with RAPs?

The State must report noncompliance with RAPs according to the provisions of 270.5.

Obtaining a RAP for an Off-Site Location

270.230 May I perform remediation waste management activities under a RAP at a location removed from the area where the remediation wastes originated?

(a) You may request a RAP for remediation waste management activities at a location removed from the area where the remediation wastes originated if you believe such a location would be more protective than the contaminated area or areas in close proximity.

(b) If the Department determines that an alternative location, removed from the area where

the remediation waste originated, is more protective than managing remediation waste at the area of contamination or areas in close proximity, then the Department may approve a RAP for this alternative location.

(c) You must request the RAP, and the Department will approve or deny the RAP, according to the procedures and requirements in this subpart.

(d) A RAP for an alternative location must also meet the following requirements, which the Department must include in the RAP for such locations:

(1) The RAP for the alternative location must be issued to the person responsible for the cleanup from which the remediation wastes originated;

(2) The RAP is subject to the expanded public participation requirements in 124.31, 124.32, and 124.33 of this chapter;

(3) The RAP is subject to the public notice requirements in 124.10(c) of this chapter;

(4) The site permitted in the RAP may not be located within 61 meters or 200 feet of a fault which has had displacement in the Holocene time (you must demonstrate compliance with this standard through the requirements in 270.14(b)(11)) (See definitions of terms in 264.18(a) of this chapter);

Note to paragraph (d)(4): Sites located in political jurisdictions other than those listed in Appendix VI of Part 264 of this chapter, are assumed to be in compliance with this requirement.

(e) These alternative locations are remediation waste management sites, and retain the following benefits of remediation waste management sites:

(1) Exclusion from facility-wide corrective action under 264.101 of this chapter; and

(2) Application of 264.1(j) of this chapter in lieu of part 264, subparts B, C, and D, of this chapter.

Subpart I - Integration with Maximum Achievable Control Technology (MACT) Standards

(6/03)

270.235 Options for incinerators, cement kilns, lightweight aggregate kilns, solid fuel boilers, liquid fuel boilers and hydrochloric acid production furnaces to minimize emissions from startup, shutdown, and malfunction events.

(a) Facilities with existing permits.

(1) Revisions to permit conditions after documenting compliance with MACT. The owner or operator of a RCRA-permitted incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace may request that the Department address permit conditions that minimize emissions from startup, shutdown, and malfunction events under any of the following options when requesting removal of permit conditions that are no longer applicable according to 264.340(b) and 266.100(b):

(i) Retain relevant permit conditions. Under this option, the Department will:

(A) Retain permit conditions that address releases during startup, shutdown, and malfunction events, including releases from emergency safety vents, as these events are defined in the facility's startup, shutdown, and malfunction plan required under 63.1206(c)(2); and

(B) Limit applicability of those permit conditions only to when the facility is operating under its startup, shutdown, and malfunction plan.

(ii) Revise relevant permit conditions.

(A) Under this option, the Department will:

(1) Identify a subset of relevant existing permit requirements, or develop alternative permit requirements, that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan, design, and operating history.

(2) Retain or add these permit requirements to the permit to apply only when the facility is operating under its startup, shutdown, and malfunction plan.

(B) Changes that may significantly increase emissions.

(1) You must notify the Department in writing of changes to the startup, shutdown, and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown, or malfunction events, including releases from emergency safety vents. You must notify the Department of such changes within five days of making such changes. You must identify in the notification recommended revisions to permit conditions necessary as a result of the changes to

ensure that emissions of toxic compounds are minimized during these events.

(2) The Department may revise permit conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown, or malfunction events, including releases from emergency safety vents either:

(i) Upon permit renewal, or, if warranted;

(ii) By modifying the permit under 270.41(a) or 270.42.

(iii) Remove permit conditions. Under this option:

(A) The owner or operator must document that the startup, shutdown, and malfunction plan required under 63.1206(c)(2) has been approved by the Department under 40 CFR 63.1206(c)(2)(ii)(B); and

(B) The Department will remove permit conditions that are no longer applicable according to 264.340(b) and 266.100(b).

(2) Addressing permit conditions upon permit reissuance. The owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that has conducted a comprehensive performance test and submitted to the Department a Notification of Compliance documenting compliance with the standards of 40 CFR part 63, Subpart EEE, may request in the application to reissue the permit for the combustion unit that the Department control emissions from startup, shutdown, and malfunction events under any of the following options:

(i) RCRA option A.

(A) Under this option, the Department will:

(1) Include, in the permit, conditions that ensure compliance with 264.345(a) and 264.345(c) or 266.102(e)(1) and 266.102(e)(2)(iii) to minimize emissions of toxic compounds from startup, shutdown, and malfunction events, including releases from emergency safety vents; and

(2) Specify that these permit requirements apply only when the facility is operating under its startup, shutdown, and malfunction plan.; or

(ii) RCRA option B.

(A) Under this option, the Department will:

(1) Include, in the permit conditions, that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan, design, and operating history; and

(2) Specify that these permit requirements apply only when the facility is operating under its startup, shutdown, and malfunction plan.

(B) Changes that may significantly increase emissions.

(1) You must notify the Department in writing of changes to the startup, shutdown, and malfunction plan or changes to the design of the source that may significantly increase emissions of toxic compounds from startup, shutdown, or malfunction events, including releases from emergency safety vents. You must notify the Department of such changes within five days of making such changes. You must identify in the notification recommended revisions to permit conditions necessary as a result of the changes to ensure that emissions of toxic compounds are minimized during these events.

(2) The Department may revise permit conditions as a result of these changes to ensure that emissions of toxic compounds are minimized during startup, shutdown, or malfunction events, including releases from emergency safety vents either:

(i) Upon permit renewal, or, if warranted;

(ii) By modifying the permit under 270.41(a) or 270.42; or

(iii) CAA option. Under this option:

(A) The owner or operator must document that the startup, shutdown, and malfunction plan required under 40 CFR 63.1206(c)(2) has been approved by the Department under 63.1206(c)(2)(ii)(B); and

(B) The Department will omit from the permit conditions that are not applicable under 264.340(b) and 266.100(b).

(b) Interim status facilities.

(1) Interim status operations. In compliance with 265.340 and 266.100(b), the owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of part 265 or 266 may control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following

options after conducting a comprehensive performance test and submitting to the Department a Notification of Compliance documenting compliance with the standards of 40 CFR part 63, Subpart EEE:

(i) RCRA option. Under this option, the owner or operator continues to comply with the interim status emission standards and operating requirements of part 265 or 266 relevant to control of emissions from startup, shutdown, and malfunction events. Those standards and requirements apply only during startup, shutdown, and malfunction events; or

(ii) CAA option. Under this option, the owner or operator is exempt from the interim status standards of part 265 or 266 relevant to control of emissions of toxic compounds during startup, shutdown, and malfunction events upon submission of written notification and documentation to the Department that the startup, shutdown, and malfunction plan required under 63.1206(c)(2) has been approved by the Department under 63.1206(c)(2)(ii)(B).

(2) Operations under a subsequent RCRA permit. When an owner or operator of an incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace that is operating under the interim status standards of parts 265 or 266 submits a RCRA permit application, the owner or operator may request that the Department control emissions from startup, shutdown, and malfunction events under any of the options provided by (a)(2)(i), (a)(2)(ii), or (a)(2)(iii).

(*c*) New units. Hazardous waste incinerator, cement kiln, lightweight aggregate kiln, solid fuel boiler, liquid fuel boiler, or hydrochloric acid production furnace units that become subject to RCRA permit requirements after October 12, 2005 must control emissions of toxic compounds during startup, shutdown, and malfunction events under either of the following options:

(1) Comply with the requirements specified in 40 CFR 63.1206(c)(2); or

(2) Request to include in the RCRA permit, conditions that ensure emissions of toxic compounds are minimized from startup, shutdown, and malfunction events, including releases from emergency safety vents, based on review of information including the source's startup, shutdown, and malfunction plan and design. The Department will specify that these permit conditions apply only when the facility is operating under its startup, shutdown, and malfunction plan. (6/08)

273 - STANDARDS FOR UNIVERSAL WASTE MANAGEMENT **2**

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273 - STANDARDS FOR UNIVERSAL WASTE MANAGEMENT

Subpart A - General

273.1 Scope

(a) This part establishes requirements for managing the following:

(1) Batteries as described in 273.2;

(2) Pesticides as described in 273.3; (8/00)

(3) Mercury containing equipment as described in 273.4; and (12/95, 8/00, 6/07)

(4) Lamps as described in 273.5. (8/00)

(b) This part provides an alternative set of management standards in lieu of regulation under parts 260 through 272.

273.2 Applicability - batteries

(a) Batteries covered under part 273

(1) The requirements of this part apply to persons managing batteries, as described in 273.9, except those listed in paragraph (b) of this section. (8/00)

(2) Spent lead-acid batteries which are not managed under part 266, subpart G, are subject to management under this part.

(b) Batteries not covered under part 273. The requirements of this part do not apply to persons managing the following batteries:

(1) Spent lead-acid batteries that are managed under part 266, subpart G.

(2) Batteries, as described in 273. 9, that are not yet wastes under part 261 of this chapter, including those that do not meet the criteria for waste generation in paragraph (c) of this section. (8/00)

(3) Batteries, as described in 273.9, that are not hazardous waste. A battery is a hazardous waste if it exhibits one or more of the characteristics identified in 261 Subpart C. (8/00)

(c) Generation of waste batteries.

(1) A used battery becomes a waste on the date it is discarded (e.g., when sent for reclamation).

(2) An unused battery becomes a waste on the date the handler decides to discard it.

273.3 Applicability - pesticides

(a) Pesticides covered under this part 273. The requirements of this part apply to persons managing pesticides, as described in 273.9, meeting the following conditions, except those listed in paragraph (b) of this section: (8/00)

(1) Recalled pesticides that are:

(i) Stocks of a suspended and canceled pesticide that are part of a voluntary or mandatory recall under FIFRA Section 19(b), including, but not limited to those owned by the registrant responsible for conducting the recall; or

(ii) Stocks of a suspended or canceled pesticide, or a pesticide that is not in compliance with FIFRA, that are part of a voluntary recall by the registrant.

(2) Stocks of other unused pesticide products that are collected and managed as part of a waste pesticide collection program.

(b) Pesticides not covered under part 273. The requirements of this part do not apply to persons managing the following pesticides:

(1) Recalled pesticides described in paragraph (a)(1) of this section, and unused pesticide products described in paragraph (a)(2) of this section, that are managed by farmers in compliance with 262.70. (262.70 addresses pesticides disposed of on the farmer's own farm in a manner consistent with the disposal instructions on the pesticide label, providing the container is triple rinsed in accordance with 261.7(b)(3));

(2) Pesticides not meeting the conditions set forth in paragraph (a) of this section. These pesticides must be managed in compliance with the hazardous waste regulations in parts 260 through 272;

(3) Pesticides that are not wastes under part 261 of this chapter, including those that do not meet the criteria for waste generation in paragraph (c) of this section or those that are not wastes as described in paragraph (d) of this section; and

(4) Pesticides that are not hazardous waste. A pesticide is a hazardous waste if it is listed in part 261, subpart D or if it exhibits one or more of the characteristics identified in part 261, subpart C.

(c) When a pesticide becomes a waste

(1) A recalled pesticide described in paragraph (a)(1) of this section becomes a waste on the first date on which both of the following conditions apply:

(i) The generator of the recalled pesticide agrees to participate in the recall; and

(ii) The person conducting the recall decides to discard (e.g., burn the pesticide for energy recovery).

(2) An unused pesticide product described in paragraph (a)(2) of this section becomes a waste on the date the generator decides to discard it.

(d) Pesticides that are not wastes. The following pesticides are not wastes:

(1) Recalled pesticides described in paragraph (a)(1) of this section, provided that the person conducting the recall:

(i) has not made a decision to discard (e.g., burn for energy recovery) the pesticide. Until such a decision is made, the pesticide does not meet the definition of "solid waste" under 261.2; thus the pesticide is not a hazardous waste and is not subject to hazardous waste requirements, including part 273 of this chapter. This pesticide remains subject to the requirements of FIFRA; or

(ii) has made a decision to use a management option that, under 261.2, does not cause the

pesticide to be a solid waste (i.e., the selected option is use (other than use constituting disposal) or reuse (other than burning for energy recovery), or reclamation). Such a pesticide is not a solid waste and therefore is not a hazardous waste, and is not subject to the hazardous waste requirements including part 273 of this chapter. This pesticide, including a recalled pesticide that is exported to a foreign destination for use or reuse, remains subject to the requirements of FIFRA.

(2) Unused pesticide products described in paragraph (a)(2) of this section, if the generator of the unused pesticide product has not decided to discard (e.g., burn for energy recovery) them. These pesticides remain subject to the requirements of FIFRA.

273.4 Applicability - mercury containing equipment

(a) Mercury containing equipment covered under this part 273. The requirements of this part apply to persons managing mercury containing equipment, as described in 273.9, except those listed in paragraph (b) of this section. (8/00 & 6/07)

(b) Mercury containing equipment not covered under part 273. The requirements of this part do not apply to persons managing the following mercury containing equipment: (6/07)

(1) Mercury containing equipment that is not yet wastes under part 261. Paragraph (c) of this section describes when Mercury containing equipment becomes a waste;.

(2) Mercury containing equipment that is not hazardous waste. Mercury containing equipment is a hazardous waste if it exhibits one or more of the characteristics identified in part 261, subpart C or is listed in part 261, subpart D; and. (6/07)

(3) Equipment and devices from which the mercury containing components have been removed. (6/07)

(c) Generation of waste mercury containing equipment.(6/07)

(1) Used mercury containing equipment becomes a waste on the date it is discarded. (6/07)

(2) Unused mercury containing equipment becomes a waste on the date the handler decides to discard it.(6/07)

273.5 Applicability - Lamps

(a) Lamps covered under this part 273. The requirements of this part apply to persons managing lamps as described in 273.9, except those listed in paragraph (b) of this section. (8/00)

(b) Lamps not covered under this part 273. The requirements of this part do not apply to persons managing the following lamps:

(1) Lamps that are not yet wastes under part 261 of this chapter as provided in paragraph (c) of this Section.

(2) Lamps that are not hazardous waste. A lamp is a hazardous waste if it exhibits one or more of the characteristics identified in part 261, subpart C of this chapter.

(c) Generation of waste lamps.

(1) A used lamp becomes a waste on the date it is discarded.

(2) An unused lamp becomes a waste on the date the handler decides to discard it.

273.6 [Reserved 8/00]

273.7 [Reserved 8/00]

273.8 Applicability - household and conditionally exempt small quantity generator waste.

(a) Persons managing the wastes listed below may, at their option, manage them under the requirements of this part:

(1) Household wastes that are exempt under 261.4(b)(1) of this chapter and are also of the same type as the universal wastes defined at 273.9; and/or (8/00)

(2) Conditionally exempt small quantity generator wastes that are exempt under 261.5 of this chapter and are also of the same type as the universal wastes defined at 273.9. (8/00)

(b) Persons who commingle the wastes described in Paragraphs (a)(1) and (a)(2) of this section together with universal waste regulated under this part must manage the commingled waste under the requirements of this part.

273.9 Definitions

"Ampule" means an airtight vial made of glass, plastic, metal, or any combination of these materials. (6/07)

"Battery" means a device consisting of one or more electrically connected electrochemical cells which is designed to receive, store, and deliver electric energy. An electrochemical cell is a system consisting of an anode, cathode, and an electrolyte, plus such connections (electrical and mechanical) as may be needed to allow the cell to deliver or receive electrical energy. The term battery also includes an intact, unbroken battery from which the electrolyte has been removed.

"Destination facility" means a facility that treats, disposes of, or recycles a particular category of universal waste, except those management activities described in subparagraphs (a) and (c) of sections 273.13 and 273.33. A facility at which a particular category of universal waste is only accumulated, is not a destination facility for purposes of managing that category of universal waste.

"FIFRA" means the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C. 136 - 136y).

Generator means any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.

"Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.

"Lamp", also referred to as "universal waste lamp" is defined as the bulb or tube portion of an electric lighting device. A lamp is specifically designed to produce radiant energy, most often in the ultraviolet, visible, and infrared regions of the electromagnetic spectrum. Examples of common universal waste electric lamps include, but are not limited to, fluorescent, high intensity discharge, neon, mercury vapor, high-pressure sodium, and metal halide lamps. (8/00)

"Large Quantity Handler of Universal Waste" means a universal waste handler (as defined in this section) who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, mercury containing equipment, or lamps, calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which 5,000 kilograms limit is met or exceeded (8/00 & 6/07)

"Mercury containing equipment" means a device or part of a device (including thermostats, but excluding batteries and lamps) that contains elemental mercury integral to its function.(6/07)

"On-site" means the same or geographically contiguous property which may be divided by public or private right-of-way, provided that the entrance and exit between the properties is at a crossroads intersection, and access is by crossing as opposed to going along the right of way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, are also considered on-site property.

"Pesticide" means any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, or intended for use as a plant regulator, defoliant, or desiccant, other than any article that:

(a) is a new animal drug under FFDCA section 201(w), or

(b) is an animal drug that has been determined by regulation of the Secretary of Health and Human Services not to be a new animal drug, or

(c) is an animal feed under FFDCA section 201(x) that bears or contains any substances described by paragraph (a) or (b) of this section.

"Small Quantity Handler of Universal Waste" means a universal waste handler (as defined in this section) who does not accumulate 5,000 kilograms or more of universal waste (batteries, pesticides, mercury containing equipment, or lamps, calculated collectively) at any time. (8/00 & 6/07)

"Thermostat" means a temperature control device that contains metallic mercury in an ampule attached to a bimetal sensing element, and mercury containing ampules that have been removed from these temperature control devices in compliance with the requirements of 273.13(c)(2) or 273.33(c)(2).

:Universal Waste" means any of the following hazardous wastes that are subject to the universal waste requirements of part 273: (6/07)

(1) Batteries as described in 273.2;

(2) Pesticides as described in 273.3; and

(3) Mercury containing equipment as described in 273.4; and (8/00)

(4) Lamps as described in 273.5. (8/00 & 6/07)

"Universal Waste Handler":

(a) Means:

(1) A generator (as defined in this section) of universal waste; or

(2) The owner or operator of a facility, including all contiguous property, that receives universal waste from other universal waste handlers, accumulates universal waste, and sends universal waste to another universal waste handler, to a destination facility, or to a foreign destination.

(b) Does not mean:

(1) A person who treats (except under the provisions of 273.13(a) or (c), or 273.33(a) or (c)), disposes of, or recycles universal waste; or

(2) A person engaged in the off-site transportation of universal waste by air, rail, highway, or water, including a universal waste transfer facility.

"Universal Waste Transfer Facility" means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of universal waste are held during the normal course of transportation for ten days or less.

"Universal Waste Transporter" means a person engaged in the off-site transportation of universal waste by air, rail, highway, or water.

Subpart B - Standards for Small Quantity Handlers of Universal Waste

273.10 Applicability

This subpart applies to small quantity handlers of universal waste (as defined in 273.9). (8/00)

273.11 Prohibitions

A small quantity handler of universal waste is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in 273.17; or by managing specific wastes as provided in 273.13.

273.12 Notification

A small quantity handler of universal waste is not required to notify the Department of universal waste handling activities.

273.13 Waste management

(a) Universal waste batteries: A small quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

(i) sorting batteries by type;

(ii) mixing battery types in one container;

(iii) discharging batteries so as to remove the electric charge;

(iv) regenerating used batteries;

(v) disassembling batteries or battery packs into individual batteries or cells;

(vi) removing batteries from consumer products; or

(vii) removing electrolyte from batteries.

(3) A small quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste identified in part 261, subpart C.

(i) If the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste, it is subject to all applicable requirements of parts 260 through 272. The handler is considered the generator of the hazardous electrolyte and/or other waste and is subject to part 262.

(ii) If the electrolyte or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

(b) Universal waste pesticides. A small quantity handler of universal waste must manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides must be contained in one or more of the following:

(1) A container that remains closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions; or

(2) A container that does not meet the requirements of paragraph (1), provided that the unacceptable container is overpacked in a container that does meet the requirements of paragraph (1); or

(3) A tank that meets the requirements of part 265 subpart J, except for 265.197(c), 265.200, and 265.201; or

(4) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(c) Mercury containing equipment.: A small quantity handler of universal waste must manage universal waste mercury containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A small quantity handler of universal waste must place in a container any universal waste mercury containing equipment with noncontained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the device, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and must be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means. (6/07)

(2) A small quantity handler of universal waste may remove mercury containing ampules from universal waste mercury containing equipment provided the handler:

(i) Removes and manages the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes the ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks from broken ampules, from that containment device to a container that meets the requirements of 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good condition;

(viii) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation;

(3) A small quantity handler of universal waste mercury containing equipment that does not contain an ampule may remove the open original housing holding the mercury from universal waste mercury containing equipment provided the handler:(6/07)

(i) Immediately seals the original housing holding the mercury with an air-tight seal to prevent the release of any mercury to the environment; and

(ii) Follows all requirements for removing ampules and managing removed ampules under paragraph (c)(2) of this section; and

(4) (i) A small quantity handler of universal waste who removes mercury containing ampules from mercury containing equipment or seals mercury from mercury containing equipment in its original housing must determine whether the following exhibit a characteristic of hazardous waste identified in part 261, subpart C:

(A) Mercury or clean-up residues resulting from spills or leaks; and/or

(B) Other solid waste generated as a result of the removal of mercury containing ampules or housings (e.g., the remaining mercury containing device).

(ii) If the mercury, residues, and/or other solid waste exhibits a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of parts 260 through 272. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it in compliance with part 262.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations. (6/07)

(d) Lamps. A small quantity handler of universal waste must manage lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows: (8/00)

(1) A small quantity handler of universal waste must contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A small quantity handler of universal waste must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

273.14 Labeling/marking

A small quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste - Battery(ies),” or "Waste Battery(ies)," or "Used Battery(ies);"

(b) A container, (or multiple container package unit), tank, transport vehicle or vessel in which recalled universal waste pesticides as described in 273.3(a)(1) are contained must be labeled or marked clearly with:

(1) The label that was on or accompanied the product as sold or distributed; and

(2) The words "Universal Waste - Pesticide(s)" or "Waste - Pesticide(s);"

(c) A container, tank, or transport vehicle or vessel in which unused pesticide products as described in 273.3(a)(2) are contained must be labeled or marked clearly with:

(1) (i) The label that was on the product when purchased, if still legible;

(ii) If using the labels described in paragraph (1)(i) is not feasible, the appropriate label as required under the Department of Transportation regulation 49 CFR part 172;

(iii) If using the labels described in paragraphs (1)(i) and (1)(ii) is not feasible, another label prescribed or designated by the waste pesticide collection program administered or recognized by a state; and

(2) The words "Universal Waste - Pesticide(s)" or "Waste - Pesticide(s)."

(d) (1) Universal waste mercury containing equipment (i.e., each device), or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: "Universal Waste - Mercury Containing Equipment," "Waste Mercury Containing Equipment," or "Used Mercury Containing Equipment."

(2) A universal waste mercury containing thermostat or container containing only universal waste mercury containing thermostats may be labeled or marked clearly with any of the following phrases:

"Universal Waste - Waste Mercury Thermostat(s),or "Used Mercury Thermostat(s)."(6/07)

(e) Each lamp or a container or package in which such lamps are contained must be labeled or marked clearly with one of the following phrases: "Universal Waste - Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)." (8/00)

273.15 Accumulation time limits

(a) A small quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of paragraph (b) are met.

(b) A small quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

(c) A small quantity handler of universal waste who accumulates universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it becomes a waste or is received. The handler may make this demonstration by:

(1) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;

(2) Marking or labeling each individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;

(3) Maintaining an inventory system on-site that identifies the date each universal waste became a waste or was received;

(4) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;

(5) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or

(6) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

273.16 Employee training

A small quantity handler of universal waste must inform all employees who handle or have responsibility for managing universal waste. The information must describe proper handling and emergency procedures appropriate to the type(s) of universal waste handled at the facility.

273.17 Response to releases

(a) A small quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A small quantity handler of universal waste must determine whether any material resulting from the release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements of parts 260 through 272. The handler is considered the generator of the material resulting from the release, and must manage it in compliance with part 262.

273.18 Off-site shipments

(a) A small quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a small quantity handler of universal waste self-transports universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of subpart D of this part while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR 171-180, a small quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR parts 172 - 180;

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a small quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(1) Receive the waste back when notified that the shipment has been rejected, or

(2) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A small quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

(i) Send the shipment back to the originating handler, or

(ii) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(g) If a small quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler must immediately notify the Department of the illegal shipment, and provide the name, address, and phone number of the originating shipper. The Department will provide instructions for managing the hazardous waste.

(h) If a small quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

273.19 Tracking universal waste shipments

A small quantity handler of universal waste is not required to keep records of shipments of universal waste.

273.20 Exports

A small quantity handler of universal waste who sends universal waste to a foreign destination other than to those OECD countries specified in 262.58(a)(1) (in which case the handler is subject to the requirements of part 262, subpart H) must: (9/98)

(a) Comply with the requirements applicable to a primary exporter in 262.53, 262.56(a)(1) through (4), (6), and (b) and 262.57;

(b) Export such universal waste only upon consent of the receiving country and in conformance with the EPA Acknowledgement of Consent as defined in subpart E of part 262 of this chapter; and

(c) Provide a copy of the EPA Acknowledgement of Consent for the shipment to the transporter transporting the shipment for export.

Subpart C - Standards for Large Quantity Handlers of Universal Waste

273.30 Applicability

This subpart applies to large quantity handlers of universal waste as defined in 273.9. (8/00)

273.31 Prohibitions

A large quantity handler of universal waste is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in 273.37; or by managing specific wastes as provided in 273.33.

273.32 Notification

(a) (1) Except as provided in paragraphs (a)(2) and (3) of this section, a large quantity handler of universal waste must have sent written notification of universal waste management to the Department, and received an EPA Identification Number, before meeting or exceeding the 5,000 kilogram storage limit.

(2) A large quantity handler of universal waste who has already notified the Department of his hazardous waste management activities and has received an EPA Identification Number is not required to renotify under this section.

(3) A large quantity handler of universal waste who manages recalled universal waste pesticides as described in 273.3(a)(1) and who has sent notification to the EPA as required by 40 CFR part 165 is not required to notify for those recalled universal waste pesticides under this section.

(b) This notification must include:

(1) The universal waste handler's name and mailing address;

(2) The name and business telephone number of the person at the universal waste handler's site who should be contacted regarding universal waste management activities;

(3) The address or physical location of the universal waste management activities;

(4) A list of all the types of universal waste managed by the handler (e.g., batteries, pesticides, mercury containing equipment, and lamps); and (8/00 & 6/07)

(5) A statement indicating that the handler is accumulating more than 5,000 kilograms of universal waste at one time. (8/00 & 6/07)

273.33 Waste management

(a) Universal waste batteries: A large quantity handler of universal waste must manage universal waste batteries in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must contain any universal waste battery that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the battery, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

(i) sorting batteries by type;

(ii) mixing battery types in one container;

(iii) discharging batteries so as to remove the electric charge;

(iv) regenerating used batteries;

(v) disassembling batteries or battery packs into individual batteries or cells;

(vi) removing batteries from consumer products; or

(vii) removing electrolyte from batteries.

(3) A large quantity handler of universal waste who removes electrolyte from batteries, or who generates other solid waste (e.g., battery pack materials, discarded consumer products) as a result of the activities listed above, must determine whether the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste identified in part 261, subpart C.

(i) If the electrolyte and/or other solid waste exhibit a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of parts 260 through 272. The handler is considered the generator of the hazardous electrolyte and/or other waste and is subject to part 262.

(ii) If the electrolyte or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

(b) Universal waste pesticides: A large quantity handler of universal waste must manage universal waste pesticides in a way that prevents releases of any universal waste or component of a universal waste to the environment. The universal waste pesticides must be contained in one or more of the following:

(1) A container that remains closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions; or

(2) A container that does not meet the requirements of paragraph (1), provided that the unacceptable container is overpacked in a container that does meet the requirements of paragraph (1); or

(3) A tank that meets the requirements of part 265 subpart J, except for 265.197(c), 265.200, and 265.201; or

(4) A transport vehicle or vessel that is closed, structurally sound, compatible with the pesticide, and that lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.

(c) Mercury containing equipment: A large quantity handler of universal waste must manage universal waste mercury containing equipment in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

(1) A large quantity handler of universal waste must place in a container any universal waste mercury containing equipment with non-contained elemental mercury or that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions. The container must be closed, structurally sound, compatible with the contents of the device, must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions, and must be reasonably designed to prevent the escape of mercury into the environment by volatilization or any other means.(6/07)

(2) A large quantity handler of universal waste may remove mercury containing ampules from universal waste mercury containing equipment provided the handler:

(i) Removes and manages the ampules in a manner designed to prevent breakage of the ampules;

(ii) Removes the ampules only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from an ampule in case of breakage);

(iii) Ensures that a mercury clean-up system is readily available to immediately transfer any mercury resulting from spills or leaks of broken ampules from that containment device to a container that meets the requirements of 262.34;

(iv) Immediately transfers any mercury resulting from spills or leaks from broken ampules from the containment device to a container that meets the requirements of 262.34;

(v) Ensures that the area in which ampules are removed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury;

(vi) Ensures that employees removing ampules are thoroughly familiar with proper waste mercury handling and emergency procedures, including transfer of mercury from containment devices to appropriate containers;

(vii) Stores removed ampules in closed, non-leaking containers that are in good condition;

(viii) Packs removed ampules in the container with packing materials adequate to prevent breakage during storage, handling, and transportation; and

(3) A large quantity handler of universal waste mercury containing equipment that does not contain an ampule may remove the open original housing holding the mercury from universal waste mercury containing equipment provided the handler:

(i) Immediately seals the original housing holding the mercury with an air-tight seal to prevent the release of any mercury to the environment; and

(ii) Follows all requirements for removing ampules and managing removed ampules under paragraph (c)(2) of this section; and

(4) (i) A large quantity handler of universal waste who removes mercury containing ampules from mercury containing equipment or seals mercury from mercury containing equipment in its original housing must determine whether the following exhibit a

characteristic of hazardous waste identified in part 261, subpart C:

(A) Mercury or clean-up residues resulting from spills or leaks; and/or

(B) Other solid waste generated as a result of the removal of mercury containing ampules or housings (e.g.,the remaining mercury containing device).

(ii) If the mercury, residues, and/or other solid waste exhibits a characteristic of hazardous waste, it must be managed in compliance with all applicable requirements of parts 260 through 272. The handler is considered the generator of the mercury, residues, and/or other waste and must manage it in compliance with part 262.

(iii) If the mercury, residues, and/or other solid waste is not hazardous, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations. (6/07)

(d) Lamps. A large quantity handler of universal waste must manage lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows: (8/00)

(1) A large quantity handler of universal waste must contain any lamp in containers or packages that are structurally sound, adequate to prevent breakage, and compatible with the contents of the lamps. Such containers and packages must remain closed and must lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.

(2) A large quantity handler of universal waste must immediately clean up and place in a container any lamp that is broken and must place in a container any lamp that shows evidence of breakage, leakage, or damage that could cause the release of mercury or other hazardous constituents to the environment. Containers must be closed, structurally sound, compatible with the contents of the lamps and must lack evidence of leakage, spillage or damage that could cause leakage or releases of mercury or other hazardous constituents to the environment under reasonably foreseeable conditions.

273.34 Labeling/marking

A large quantity handler of universal waste must label or mark the universal waste to identify the type of universal waste as specified below:

(a) Universal waste batteries (i.e., each battery), or a container or tank in which the batteries are contained, must be labeled or marked clearly with any one of the following phrases: "Universal Waste - Battery(ies)," or "Waste Battery(ies)," or "Used Battery(ies);"

(b) A container (or multiple container package unit), tank, transport vehicle or vessel in which recalled universal waste pesticides as described in 273.3(a)(1) are contained must be labeled or marked clearly with:

(1) The label that was on or accompanied the product as sold or distributed; and

(2) The words "Universal Waste - Pesticide(s)" or "Waste - Pesticide(s);"

(c) A container, tank, or transport vehicle or vessel in which unused pesticide products as described in 273.3(a)(2) are contained must be labeled or marked clearly with:

(1) (i) The label that was on the product when purchased, if still legible;

(ii) If using the labels described in paragraph (1)(i) is not feasible, the appropriate label as required under the Department of Transportation regulation 49 CFR part 172;

(iii) If using the labels described in paragraphs (1)(i) and (1)(ii) is not feasible, another label prescribed or designated by the pesticide collection program; and

(2) The words "Universal Waste - Pesticide(s)" or "Waste - Pesticide(s)."

(d) (1) Mercury containing equipment (i.e., each device), or a container in which the equipment is contained, must be labeled or marked clearly with any of the following phrases: "Universal Waste-Mercury Containing Equipment," "Waste Mercury containing Equipment," or "Used Mercury containing Equipment."

(2) A universal waste mercury containing thermostat or container containing only universal waste mercury containing thermostats may be labeled or marked clearly with any of the following phrases: "Universal Waste-Mercury Thermostat(s)," "Waste Mercury Thermostat(s)," or "Used Mercury Thermostat(s)." (6/07)

(e) Each lamp or a container or package in which such lamps are contained must be labeled or marked clearly with any one of the following phrases: "Universal Waste - Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)." (8/00)

273.35 Accumulation time limits

(a) A large quantity handler of universal waste may accumulate universal waste for no longer than one year from the date the universal waste is generated, or received from another handler, unless the requirements of paragraph (b) are met.

(b) A large quantity handler of universal waste may accumulate universal waste for longer than one year from the date the universal waste is generated, or received from another handler, if such activity is solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal. However, the handler bears the burden of proving that such activity was solely for the purpose of accumulation of such quantities of universal waste as necessary to facilitate proper recovery, treatment, or disposal.

(c) A large quantity handler of universal waste must be able to demonstrate the length of time that the universal waste has been accumulated from the date it

becomes a waste or is received. The handler may make this demonstration by:

(1) Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;

(2) Marking or labeling the individual item of universal waste (e.g., each battery or thermostat) with the date it became a waste or was received;

(3) Maintaining an inventory system on-site that identifies the date the universal waste being accumulated became a waste or was received;

(4) Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;

(5) Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or

(6) Any other method which clearly demonstrates the length of time that the universal waste has been accumulated from the date it becomes a waste or is received.

273.36 Employee training

A large quantity handler of universal waste must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relative to their responsibilities during normal facility operations and emergencies.

273.37 Response to releases

(a) A large quantity handler of universal waste must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A large quantity handler of universal waste must determine whether any material resulting from the release is hazardous waste, and if so, must manage the hazardous waste in compliance with all applicable requirements of parts 260 through 272. The handler is considered the generator of the material resulting from the release, and is subject to part 262.

273.38 Off-site shipments

(a) A large quantity handler of universal waste is prohibited from sending or taking universal waste to a place other than another universal waste handler, a destination facility, or a foreign destination.

(b) If a large quantity handler of universal waste self-transports universal waste off-site, the handler becomes a universal waste transporter for those self-transportation activities and must comply with the transporter requirements of subpart D of this part while transporting the universal waste.

(c) If a universal waste being offered for off-site transportation meets the definition of hazardous materials under 49 CFR 171-180, a large quantity handler of universal waste must package, label, mark and placard the shipment, and prepare the proper shipping papers in accordance with the applicable Department of Transportation regulations under 49 CFR parts 172 - 180;

(d) Prior to sending a shipment of universal waste to another universal waste handler, the originating handler must ensure that the receiving handler agrees to receive the shipment.

(e) If a large quantity handler of universal waste sends a shipment of universal waste to another handler or to a destination facility and the shipment is rejected by the receiving handler or destination facility, the originating handler must either:

(1) Receive the waste back when notified that the shipment has been rejected, or

(2) Agree with the receiving handler on a destination facility to which the shipment will be sent.

(f) A large quantity handler of universal waste may reject a shipment containing universal waste, or a portion of a shipment containing universal waste that he has received from another handler. If a handler rejects a shipment or a portion of a shipment, he must contact the originating handler to notify him of the rejection and to discuss reshipment of the load. The handler must:

(i) Send the shipment back to the originating handler, or

(ii) If agreed to by both the originating and receiving handler, send the shipment to a destination facility.

(g) If a large quantity handler of universal waste receives a shipment containing hazardous waste that is not a universal waste, the handler must immediately notify the Department of the illegal shipment, and provide the name, address, and phone number of the originating shipper. The Department will provide instructions for managing the hazardous waste.

(h) If a large quantity handler of universal waste receives a shipment of non-hazardous, non-universal waste, the handler may manage the waste in any way that is in compliance with applicable federal, state or local solid waste regulations.

273.39 Tracking universal waste shipments

(a) Receipt of shipments. A large quantity handler of universal waste must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, or other shipping document. The record for each shipment of universal waste received must include the following information:

(1) The name and address of the originating universal waste handler or foreign shipper from whom the universal waste was sent;

(2) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats);

(3) The date of receipt of the shipment of universal waste.

(b) Shipments off-site. A large quantity handler of universal waste must keep a record of each shipment of universal waste sent from the handler to other facilities. The record may take the form of a log, invoice, manifest, bill of lading or other shipping document. The record for each shipment of universal waste sent must include the following information:

(1) The name and address of the universal waste handler, destination facility, or foreign destination to whom the universal waste was sent;

(2) The quantity of each type of universal waste sent (e.g., batteries, pesticides, thermostats);

(3) The date the shipment of universal waste left the facility.

(c) Record retention.

(1) A large quantity handler of universal waste must retain the records described in paragraph (a) of this section for at least three years from the date of receipt of a shipment of universal waste.

(2) A large quantity handler of universal waste must retain the records described in paragraph (b) of this section for at least three years from the date a shipment of universal waste left the facility.

273.40 Exports

A large quantity handler of universal waste who sends universal waste to a foreign destination other than to those OECD countries specified in 262.58(a)(1) (in which case the handler is subject to the requirements of part 262, subpart H) must: (9/98)

(a) Comply with the requirements applicable to a primary exporter in 262.53, 262.56(a)(1) through (4), (6), and (b) and 262.57;

(b) Export such universal waste only upon consent of the receiving country and in conformance with the EPA Acknowledgement of Consent as defined in subpart E of part 262 of this chapter; and

(c) Provide a copy of the EPA Acknowledgement of Consent for the shipment to the transporter transporting the shipment for export.

Subpart D - Standards for Universal Waste Transporters

273.50 Applicability

This subpart applies to universal waste transporters (as defined in 273.9). (8/00)

273.51 Prohibitions

A universal waste transporter is:

(a) Prohibited from disposing of universal waste; and

(b) Prohibited from diluting or treating universal waste, except by responding to releases as provided in 273.54.

273.52 Waste management

(a) A universal waste transporter must comply with all applicable U.S. Department of Transportation regulations in 49 CFR part 171 through 180 for transport of any universal waste that meets the definition of hazardous material in 49 CFR 171.8. For purposes of the Department of Transportation regulations, a material is considered a hazardous waste if it is subject to the Hazardous Waste Manifest Requirements of the U.S. Environmental Protection Agency/South Carolina Hazardous Waste Management Regulations specified in 40 CFR 262/R.61-79.262. Because universal waste does not require a hazardous waste manifest, it is not considered hazardous waste under the Department of Transportation regulations.

(b) Some universal waste materials are regulated by the Department of Transportation as hazardous materials because they meet the criteria for one or more hazard classes specified in 49 CFR 173.2. As universal waste shipments do not require a manifest under 262, they may not be described by the DOT proper shipping name "hazardous waste, (l) or (s), n.o.s.", nor may the hazardous material's proper shipping name be modified by adding the word "waste".

273.53 Storage time limits

(a) A universal waste transporter may only store the universal waste at a universal waste transfer facility for ten days or less.

(b) If a universal waste transporter stores universal waste for more than ten days, the transporter becomes a universal waste handler and must comply with the applicable requirements of subparts B or C of this part while storing the universal waste.

273.54 Response to releases

(a) A universal waste transporter must immediately contain all releases of universal wastes and other residues from universal wastes.

(b) A universal waste transporter must determine whether any material resulting from the release is hazardous waste, and if so, it is subject to all applicable requirements of parts 260 through 272. If the waste is determined to be a hazardous waste, the transporter is subject to part 262.

273.55 Off-site shipments

(a) A universal waste transporter is prohibited from transporting the universal waste to a place other that a universal waste handler, a destination facility, or a foreign destination.

(b) If the universal waste being shipped off-site meets the Department of Transportation's definition of hazardous materials under 49 CFR 171.8, the shipment must be properly described on a shipping paper in accordance with the applicable Department of Transportation regulations under 49 CFR part 172.

273.56 Exports

A universal waste transporter transporting a shipment of universal waste to a foreign destination other than to those OECD countries specified in 262.58(a)(1) (in which case the transporter is subject to the requirements of part 262, subpart H) may not accept a shipment if the transporter knows the shipment does not conform to the EPA Acknowledgment of Consent. In addition the transporter must ensure that: (9/98)

(a) A copy of the EPA Acknowledgment of Consent accompanies the shipment; and

(b) The shipment is delivered to the facility designated by the person initiating the shipment.

Subpart E - Standards for Destination Facilities

273.60 Applicability

(a) The owner or operator of a destination facility (as defined in 273.9) is subject to all applicable requirements of parts 264, 265, 266, 268, 270, and 124 of this chapter, and the notification requirement under 44-56-20 of the South Carolina Hazardous Waste Management Act and section 3010 of RCRA. (8/00)

(b) The owner or operator of a destination facility that recycles a particular universal waste without storing that universal waste before it is recycled must comply with 261.6(c)(2).

273.61 Off-site shipments

(a) The owner or operator of a destination facility is prohibited from sending or taking universal waste to a place other than a universal waste handler, another destination facility or foreign destination.

(b) The owner or operator of a destination facility may reject a shipment containing universal waste, or a portion of a shipment containing universal waste. If the owner or operator of the destination facility rejects a shipment or a portion of a shipment, he must contact the shipper to notify him of the rejection and to discuss reshipment of the load. The owner or operator of the destination facility must:

(1) Send the shipment back to the original shipper, or

(2) If agreed to by both the shipper and the owner or operator of the destination facility, send the shipment to another destination facility.

(c) If the a owner or operator of a destination facility receives a shipment containing hazardous waste that is not a universal waste, the owner or operator of the destination facility must immediately notify the Department of the illegal shipment, and provide the name, address, and phone number of the shipper. The Department will provide instructions for managing the hazardous waste.

(d) If the owner or operator of a destination facility receives a shipment of non-hazardous, non-universal waste, the owner or operator may manage the waste in any way that is in compliance with applicable federal or state solid waste regulations.

273.62 Tracking universal waste shipments

(a) The owner or operator of a destination facility must keep a record of each shipment of universal waste received at the facility. The record may take the form of a log, invoice, manifest, bill of lading, or other shipping document. The record for each shipment of universal waste received must include the following information:

(1) The name and address of the universal waste handler, destination facility, or foreign shipper from whom the universal waste was sent;

(2) The quantity of each type of universal waste received (e.g., batteries, pesticides, thermostats);

(3) The date of receipt of the shipment of universal waste.

(b) The owner or operator of a destination facility must retain the records described in paragraph (a) of this section for at least three years from the date of receipt of a shipment of universal waste.

Subpart F - Import Requirements

273.70 Imports

Persons managing universal waste that is imported from a foreign country into the United States are subject to the applicable requirements of this part, immediately after the waste enters the United States, as indicated in paragraphs (a) through (c) of this section: (9/98)

(a) A universal waste transporter is subject to the universal waste transporter requirements of subpart D of this part.

(b) A universal waste handler is subject to the small or large quantity handler of universal waste requirements of subparts B or C, as applicable.

(c) An owner or operator of a destination facility is subject to the destination facility requirements of subpart E of this part.

(d) Persons managing universal waste that is imported from an OECD country as specified in 262.58(a)(1) are subject to paragraphs (a) through (c) of this section, in addition to the requirements of 262, subpart H.

Subpart G - Petitions to Include Other Wastes under 40 CFR Part 273

273.80 General

(a) Any person seeking to add a hazardous waste or a category of hazardous waste to this part may petition for a regulatory amendment under this subpart and 40 CFR 260.20 and 260.23.

(b) To be successful, the petitioner must demonstrate to the satisfaction of the Administrator that regulation under the universal waste regulations of 40 CFR part 273 is: appropriate for the waste or category of waste; will improve management practices for the waste

or category of waste; and will improve implementation of the hazardous waste program. The petition must include the information required by 40 CFR 260.20(b). The petition should also address as many of the factors listed in 40 CFR 273.81 as are appropriate for the waste or waste category addressed in the petition.

(c) The Administrator will evaluate petitions using the factors listed in 40 CFR 273.81. The Administrator will grant or deny a petition using the factors listed in 40 CFR 273.81. The decision will be based on the weight of evidence showing that regulation under 40 CFR part 273 is appropriate for the waste or category of waste, will improve management practices for the waste or category of waste, and will improve implementation of the hazardous waste program.

273.81 Factors for Petitions to Include Other Wastes under 40 CFR Part 273

(a) The waste or category of waste, as generated by a wide variety of generators, is listed in subpart D of part 261 of this chapter, or (if not listed) a proportion of the waste stream exhibits one or more characteristics of hazardous waste identified in subpart C of part 261 of this chapter. (When a characteristic waste is added to the universal waste regulations of this part 273 by using a generic name to identify the waste category (e.g., hazardous waste batteries), the definition of universal waste in 260.10 of this chapter and 273.9 will be amended to include only the hazardous waste portion of the waste category (e.g., hazardous waste batteries).) Thus, only the portion of the waste stream that does exhibit one or more characteristics (i.e., is hazardous waste) is subject to the universal waste regulations of this part 273; (8/00)

(b) The waste or category of waste is not exclusive to a specific industry or group of industries, is commonly generated by a wide variety of types of establishments (including, for example, households, retail and commercial businesses, office complexes, conditionally exempt small quantity generators, small businesses, government organizations, as well as large industrial facilities);

(c) The waste or category of waste is generated by a large number of generators (e.g., more than 1,000 nationally) and is frequently generated in relatively small quantities by each generator;

(d) Systems to be used for collecting the waste or category of waste (including packaging, marking, and labeling practices) would ensure close stewardship of the waste;

(e) The risk posed by the waste or category of waste during accumulation and transport is relatively low compared to other hazardous wastes, and specific management standards proposed or referenced by the petitioner (e.g., waste management requirements appropriate to be added to 40 CFR 273.13, 273.33, and 273.52; and/or applicable Department of Transportation requirements) would be protective of human health and the environment during accumulation and transport;

(f) Regulation of the waste or category of waste under part 273 will increase the likelihood that the waste will be diverted from non-hazardous waste management systems (e.g., the municipal waste stream, non-hazardous industrial or commercial waste stream, municipal sewer or stormwater systems) to recycling, treatment, or disposal in compliance with Subtitle C of RCRA.

(g) Regulation of the waste or category of waste under 40 CFR part 273 will improve implementation of and compliance with the hazardous waste regulatory program; and/or

(h) Such other factors as may be appropriate.