

APPENDIX F

RHA 3.57 RADIOLOGICAL CRITERIA FOR LICENSE TERMINATION

3.57.1 General Provisions and Scope

3.57.1.1 The criteria in this appendix apply to the decommissioning of facilities licensed under Regulation 61-63, Title A, as well as other facilities subject to the Department's jurisdiction under the Atomic Energy and Radiation Control Act, Section 13-7-10 of the 1976 S.C. Code, as amended. For low-level waste disposal facilities, the criteria apply only to ancillary surface facilities that support radioactive waste disposal activities. The criteria do not apply to uranium and thorium recovery facilities already subject to Appendix A to 10 CFR part 40 or to uranium solution extraction facilities.

3.57.1.2 The criteria in this appendix do not apply to sites which:

3.57.1.2.1 Have been decommissioned prior to the effective date of the rule in accordance with criteria identified in the Site Decommissioning Management Plan (SDMP) Action Plan;

3.57.1.2.2 Have previously submitted and received Department approval on a license termination plan (LTP) or decommissioning plan that is compatible with the SDMP Action Plan criteria; or

3.57.1.2.3 Submit a sufficient LTP or decommissioning plan before August 20, 1998 and such LTP or decommissioning plan is approved by the Department before August 20, 1999 and in accordance with the criteria identified in the SDMP Action Plan, except that if an EIS is required in the submittal, there will be a provision for day-to-day extension.

3.57.1.3 After a site has been decommissioned and the license terminated in accordance with the criteria in this appendix, the Department will require additional cleanup only if, based on new information, it determines that the criteria of this appendix were not met and residual radioactivity remaining at the site could result in significant threat to public health and safety.

3.57.1.4 When calculating TEDE to the average member of the critical group the licensee shall determine the peak annual TEDE dose expected within the first 1000 years after decommissioning.

3.57.2 Radiological Criteria for Unrestricted Use

A site will be considered acceptable for unrestricted use if the residual radioactivity that is distinguishable from background radiation results in a TEDE to an average member of the critical group that does not exceed 25 millirem (0.25 mSv) per year, including that from groundwater, and the residual radioactivity has been reduced to levels that are as low as reasonably achievable (ALARA). Determination of the levels which are ALARA must take into account consideration of any detriments, such as deaths from transportation accidents, expected to potentially result from decontamination and waste disposal.

3.57.3 Criteria for License Termination Under Restricted Conditions

A site will be considered acceptable for license termination under restricted conditions if:

3.57.3.1 The licensee can demonstrate that further reductions in residual radioactivity necessary to comply with the provisions of RHA 3.57.2 would result in net public or environmental harm or were not being made because the residual levels associated with restricted conditions are ALARA. Determination

of the levels which are ALARA must take into account consideration of any detriments, such as traffic accidents, expected to potentially result from decontamination and waste disposal;

3.57.3.2 The licensee has made provisions for legally enforceable institutional controls that provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 millirem (0.25mSv) per year;

3.57.3.3 The licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site. Acceptable financial assurance mechanisms are:

3.57.3.3.1 Funds placed into an account segregated from the licensee's assets and outside the licensee's administrative control as described in RHA 1.15.11.1;

3.57.3.3.2 Surety method, insurance, or other guarantee method as described in RHA 1.15.11.2;

3.57.3.3.3 A statement of intent in the case of Federal, State, or local Government licensees, as described in RHA 1.15.11.4; or

3.57.3.3.4 When a governmental entity is assuming custody and ownership of a site, an arrangement that is deemed acceptable by such governmental entity.

3.57.3.4 The licensee has submitted a decommissioning plan or License Termination Plan (LTP) to the Department indicating the licensee's intent to decommission in accordance with RHA 2.11.4, and specifying that the licensee intends to decommission by restricting use of the site. The licensee shall document in the LTP or decommissioning plan how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and incorporated, as appropriate, following analysis of that advice.

3.57.3.4.1 Licensees proposing to decommission by restricting use of the site shall seek advice from such affected parties regarding the following matters concerning the proposed decommissioning:

3.57.3.4.1.1 Whether provisions for institutional controls proposed by the licensee;

3.57.3.4.1.1.1 Will provide reasonable assurance that the TEDE from residual radioactivity distinguishable from background to the average member of the critical group will not exceed 25 millirem (0.25mSv) TEDE per year;

3.57.3.4.1.1.2 Will be enforceable; and

3.57.3.4.1.1.3 Will not impose undue burdens on the local community or other affected parties.

3.57.3.4.1.2 Whether the licensee has provided sufficient financial assurance to enable an independent third party, including a governmental custodian of a site, to assume and carry out responsibilities for any necessary control and maintenance of the site;

3.57.3.4.2 In seeking advice on the issues identified in RHA 3.57.3.4.1, the licensee shall provide for:

3.57.3.4.2.1 Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

3.57.3.4.2.2 An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

3.57.3.4.2.3 A publicly available summary of the results of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues; and

3.57.3.5 Residual radioactivity at the site has been reduced so that if the institutional controls were no longer in effect, there is reasonable assurance that the TEDE from residual radioactivity distinguishable background to the average member of the critical group is as low as reasonably achievable and would not exceed either:

3.57.3.5.1 100 millirem (1 mSv) per year; or

3.57.3.5.2 500 millirem (5 mSv) per year provided the licensee:

3.57.3.5.2.1 Demonstrates that further reductions in residual radioactivity necessary to comply with the 100 millirem/year (1 mSv/yr) value of RHA 3.57.3.5.1 are not technically achievable, would be prohibitively expensive, or would result in net public or environment harm;

3.57.3.5.2.2 Makes provisions for durable institutional controls;

3.57.3.5.2.3 Provides sufficient financial assurance to enable a responsible government entity or independent third party, including a governmental custodian of a site, both to carry out periodic rechecks of the site no less frequently than every 5 years to assure that the institutional controls remain in place as necessary to meet the criteria of RHA 3.57.3.2 and to assume and carry out responsibilities for any necessary control and maintenance of those controls. Acceptable financial assurance mechanisms are those in RHA 3.57.3.3.

3.57.4 Alternate Criteria for License Termination

3.57.4.1 The Department may terminate a licensee using alternate criteria greater than those criteria of RHA 3.57.2, 3.57.3.2, and 3.57.3.4.1.1.1, if the licensee:

3.57.4.1.1 Provides assurance that the public health and safety would continue to be protected, and it is unlikely that the dose from all man-made sources combined, other than medical, would be more than the 1 mSv/yr (100 mrem/yr) limit of RHA 3.13 and 3.14, by submitting an analysis of possible sources of exposure;

3.57.4.1.2 Has employed to the extent practical restrictions on site use according to the provisions of RHA 3.57.3 in minimizing exposures at the site; and

3.57.4.1.3 Reduces doses to ALARA levels, taking into consideration any detriments such as traffic accidents expected to potentially result from decontamination and waste disposal.

3.57.4.1.4 Has submitted a decommissioning plan or License Termination Plan (LTP) to the Department indicating the licensee's intent to decommission in accordance with RHA 2.12.4, and specifying that the licensee proposes to decommission by use of alternate criteria. The licensee shall document in the decommissioning plan or LTP how the advice of individuals and institutions in the community who may be affected by the decommissioning has been sought and addressed, as appropriate, following analysis of that advice. In seeking such advice, the licensee shall provide for:

3.57.4.1.4.1 Participation by representatives of a broad cross section of community interests who may be affected by the decommissioning;

3.57.4.1.4.2 An opportunity for a comprehensive, collective discussion on the issues by the participants represented; and

3.57.4.1.4.3 A publicly available summary of the result of all such discussions, including a description of the individual viewpoints of the participants on the issues and the extent of agreement and disagreement among the participants on the issues.

3.57.4.2 The use of alternate criteria to terminate a license requires the approval of the Department after consideration of the Department staff's recommendations that will address any comments provided by the Environmental Protection Agency and any public comments submitted pursuant to RHA 3.57.5.

3.57.5 Public Notification and Public Participation

Upon the receipt of an LTP or decommissioning plan from the licensee, or a proposal by the licensee for release of a site pursuant to RHA 3.57.3 or 3.57.4, or whenever the Department deems such notice to be in the public interest, the Department shall:

3.57.5.1 Notify and solicit comments from:

3.57.5.1.1 Local and State governments in the vicinity of the site and any Indian nation or other indigenous people that have treaty or statutory rights that could be affected by the decommissioning; and

3.57.5.1.2 The Environmental Protection Agency for cases where the licensee proposes to release a site pursuant to RHA 3.57.4.

3.57.5.2 Publish a notice in the Federal Register and in a forum, such as local newspapers, letters to State or local organizations, or other appropriate forum, that is readily accessible to individuals in the vicinity of the site, and solicit comments from affected parties.

3.57.6 Minimization of Contamination

Applicants for licenses, other than renewals, after August 20, 1999, shall describe in the application how facility design and procedures for operation will minimize, to the extent practicable, contamination of the facility and the environment, facilitate eventual decommissioning, and minimize, to the extent practicable, the generation of radioactive waste.

APPENDIX G

RHA 3.58 NATIONALLY TRACKED SOURCES - SERIALIZATION AND REPORTS OF TRANSACTIONS

Each licensee who manufactures, transfers, receives, disassembles, or disposes of a nationally tracked source shall complete and submit a National Source Tracking Transaction Report to the National Source Tracking System as specified in paragraphs 3.58.1 through 3.58.5 of this section for each type of transaction.

3.58.1 Each licensee who manufactures a nationally tracked source shall complete and submit a National Source Tracking Transaction Report. The report must include the following information:

3.58.1.1 The name, address, and license number of the reporting licensee;

3.58.1.2 The name of the individual preparing the report;

3.58.1.3 The manufacturer, model, and serial number of the source;

3.58.1.4 The radioactive material in the source;

3.58.1.5 The initial source strength in becquerels (curies) at the time of manufacture; and

3.58.1.6 The manufacture date of the source.

3.58.2 Each licensee that transfers a nationally tracked source to another person shall complete and submit a National Source Tracking Transaction Report. The report must include the following information:

3.58.2.1 The name, address, and license number of the reporting licensee;

3.58.2.2 The name of the individual preparing the report;

3.58.2.3 The name and license number of the recipient facility and the shipping address;

3.58.2.4 The manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;

3.58.2.5 The radioactive material in the source;

3.58.2.6 The initial or current source strength in becquerels (curies);

3.58.2.7 The date for which the source strength is reported;

3.58.2.8 The shipping date;

3.58.2.9 The estimated arrival date; and

3.58.2.10 For nationally tracked sources transferred as waste under a Uniform Low-Level

Radioactive Waste Manifest, the waste manifest number and the container identification of the container with the nationally tracked source.

3.58.3 Each licensee that receives a nationally tracked source shall complete and submit a National Source Tracking Transaction Report. The report must include the following information:

3.58.3.1 The name, address, and license number of the reporting licensee;

3.58.3.2 The name of the individual preparing the report;

3.58.3.3 The name, address, and license number of the person that provided the source;

3.58.3.4 The manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;

3.58.3.5 The radioactive material in the source;

3.58.3.6 The initial or current source strength in becquerels (curies);

3.58.3.7 The date for which the source strength is reported;

3.58.3.8 The date of receipt; and

3.58.3.9 For material received under a Uniform Low-Level Radioactive Waste Manifest, the waste manifest number and the container identification with the nationally tracked source.

3.58.4 Each licensee that disassembles a nationally tracked source shall complete and submit a National Source Tracking Transaction Report. The report must include the following information:

3.58.4.1 The name, address, and license number of the reporting licensee;

3.58.4.2 The name of the individual preparing the report;

3.58.4.3 The manufacturer, model, and serial number of the source or, if not available, other information to uniquely identify the source;

3.58.4.4 The radioactive material in the source;

3.58.4.5 The initial or current source strength in becquerels (curies);

3.58.4.6 The date for which the source strength is reported;

3.58.4.7 The disassemble date of the source.

3.58.5 Each Licensee who disposes of nationally tracked source shall complete and submit a National Source Tracking Transaction Report. The report must include the following information:

3.58.5.1 The name, address, and license number of the reporting licensee;

- 3.58.5.2 The name of the individual preparing the report;
- 3.58.5.3 The waste manifest number;
- 3.58.5.4 The container identification with the nationally tracked source;
- 3.58.5.5 The date of disposal; and
- 3.58.5.6 The method of disposal.

3.58.6 The reports discussed in paragraphs 3.58.1 through 3.58.5 of this section must be submitted by the close of the next business day after the transaction. A single report may be submitted for multiple sources and transactions. The reports must be submitted to the National Source Tracking System by using:

- 3.58.6.1 The on-line National Source Tracking System;
- 3.58.6.2 Electronically using a computer-readable format;
- 3.58.6.3 By facsimile;
- 3.58.6.4 By mail to the address on the National Source Tracking Transaction Report Form (NRC Form 748); or
- 3.58.6.5 By telephone with follow-up by facsimile or mail.

3.58.7 Each licensee shall correct any error in previously filed reports or file a new report for any missed transaction within 5 business days of the discovery of the error or missed transaction. Such errors may be detected by a variety of methods such as administrative reviews or by physical inventories required by regulation. In addition, each licensee shall reconcile the inventory of nationally tracked sources possessed by the licensee against that licensee's data in the National Source Tracking System. The reconciliation must be conducted during the month of January in each year. The reconciliation process must include resolving any discrepancies between the National Source Tracking System and the actual inventory by filing the reports identified by paragraphs 3.58.1 through 3.58.5 of this section. By January 31 of each year, each licensee must submit to the National Source Tracking System confirmation that the data in the National Source Tracking System is correct.

3.58.8 Each licensee that possesses Category 1 nationally tracked sources shall have reported its initial inventory of Category 1 nationally tracked sources to the National Source Tracking System by January 31, 2009. Each licensee that possesses Category 2 nationally tracked sources shall have reported its initial inventory of Category 2 nationally tracked sources to the National Source Tracking System by January 31, 2009. The information may be submitted by using any of the methods identified by paragraph 3.58.6.1 through 3.58.6.4 of this section. The initial inventory report must include the following information:

- 3.58.8.1 The name, address, and license number of the reporting licensee;
- 3.58.8.2 The name of the individual preparing the report;
- 3.58.8.3 The manufacturer, model, and serial number of each nationally tracked source or, if not

available, other information to uniquely identify the source;

3.58.8.4 The radioactive material in the sealed source;

3.58.8.5 The initial or current source strength in becquerels (curies); and

3.58.8.6 The date for which the source strength is reported.

Nationally Tracked Source Thresholds

The Terabecquerel (TBq) values are the regulatory standard. The curie (Ci) values specified are obtained by converting from the TBq value. The curie values are provided for practical usefulness only and are rounded after conversion.

Radioactive Material	Category 1 (TBq)	Category 1 (Ci)	Category 2 (TBq)	Category 2 (Ci)
Actinium-227	20	540	0.2	5.4
Americium-241	60	1600	0.6	16
Americium-241/Be	60	1600	0.6	16
Californium-252	20	540	0.2	5.4
Cobalt-60	30	810	0.3	8.1
Curium-244	50	1400	0.5	14
Cesium-137	100	2700	1	27
Gadolinium-153	1000	27000	10	270
Iridium-192	80	2200	0.8	22
Plutonium-238	60	1600	0.6	16
Plutonium-239/Be	60	1600	0.6	16
Polonium-210	60	1600	0.6	16
Promethium-147	40000	1100000	400	11000
Radium-226	40	1100	0.4	11
Selenium-75	200	5400	2	54
Strontium-90	1000	27000	10	270
Thorium-228	20	540	0.2	5.4
Thorium-229	20	540	0.2	5.4
Thulium-170	20000	540000	200	5400
Ytterbium-169	300	8100	3	81