

DHEC/BUREAU OF WATER
NOTICE OF EXTENSION OF COMMENT PERIOD AND
RE-SCHEDULING OF PUBLIC HEARING



Bureau of Water

TOPIC: Wastewater Discharge – Santee Cooper Grainger Generating Station

NOTICE NUMBER/DATE: 13-188-R/October 4, 2013

APPLICANT: S.C. Public Service Authority/P.O. Box 2946101, Moncks Corner, SC 29461

PROJECT/LOCATION: Grainger Generating Station/Hwy 501 Bypass, Conway, SC 29526 in Horry County

HEARING TOPIC: Proposal to reissue NPDES Permit (Permit # SC0001104)

NOTICE PURPOSE: DHEC is seeking public comment on a discharge permit for this retired electricity generation station. In addition, DHEC previously gave notice of a public hearing scheduled for October 15, 2013 to receive oral comments on the proposed permit and its conditions. This public hearing has been re-scheduled at the request of interested parties to December 10, 2013, and the public comment period has been extended to end on Monday, December 16, 2013. The DHEC review of the closure plan for the ash ponds at the Grainger Generating Station is a separate action and is not a topic of this notice/hearing.

HEARING DETAILS:

- DATE: Tuesday, December 10, 2013
- LOCATION: Horry County Admin. Building, Multi-purpose room (B, C, & E), 1301 Second Avenue, Conway, SC 29526
- TIME: 6:30 PM Overview of Proposed Permit and Hearing (to offer comments for official record)
- PROCEDURES: The hearing will be conducted by a hearing officer. Oral and written comments will be accepted. Oral presentations may be limited to a fixed, reasonable amount of time, and the number of representatives that may make oral statements on behalf of any individual or organized group may be limited.
- Any individuals with disabilities or special needs who wish to participate in these proceedings or review DHEC's files on this permit should contact a person listed below two weeks before the hearing date to discuss any special aids or services required.

PERMIT SUMMARY: This permit would regulate the discharge from the ash ponds to the Waccamaw River. Waste streams being treated by the ponds are comprised of coal pile runoff, other industrial stormwater runoff and a small amount of service washwater runoff. This permit would also regulate the discharge from the cooling pond (“Lake Busbee”) to Wadus Lake, a tributary of the Waccamaw River. This discharge is comprised of water pumped from the Waccamaw River to the cooling pond to prevent it from becoming stagnant, and a small amount of cooling water from the office heating and air conditioning system.

HOW TO COMMENT? Provide comments at the hearing or give DHEC written comments no later than close of business, Monday, December 16, 2013. Forward comments to Randy Thompson (note notice #13-188-R): SCDHEC/Bureau of Water, 2600 Bull Street, Columbia, SC 29201 or Randy.Thompson@dhec.sc.gov.

MORE INFO? DHEC’s project file (which includes a fact sheet/rationale) is available for review at the above address and copies can be made for a fee by contacting our Freedom of Information Office (2600 Bull Street, Columbia, SC 29201, 803-898-3882). Also, a PDF of an information sheet, the draft NPDES permit and draft rationale can be found immediately following this public notice.

DHEC’s points of contact are:

- Richelle Tolton, Community Liaison, toltonrd@dhec.sc.gov, 843-953-0150
- Randy Thompson, Permitting, Randy.Thompson@dhec.sc.gov, 803-898-4314

SPECIAL NOTES: All people commenting and/or signing in at the hearing will receive a response to comments when DHEC makes a permit decision. Please bring this matter to the attention of others who may be interested.

Santee Cooper/Grainger -Wastewater Permit Renewal Information Sheet for Comment Period

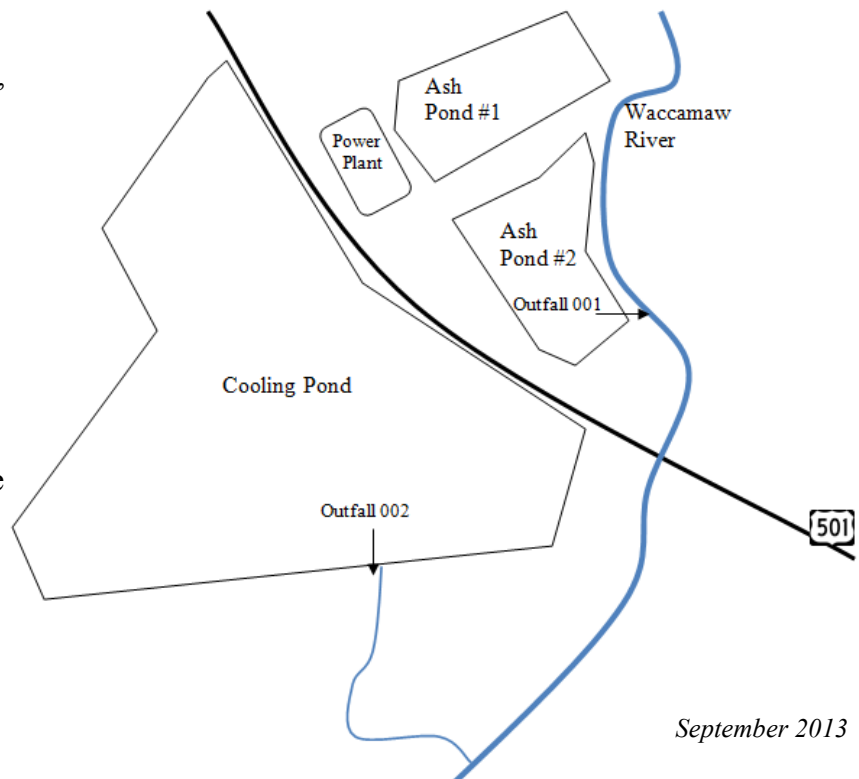


Below is a summary of the proposed National Pollutant Discharge Elimination System (NPDES) permit and issues related to the site. It is not intended to be a substitute for the permit. A copy of the public notice and draft permit can be found at:

http://www.scdhec.gov/environment/water/PN_npdesTemp.htm

- This Application.** DHEC is proposing to reissue the NPDES permit for the two existing discharge points.
 - Coal Ash Pond #2:** This is *outfall 001*. It receives flow from coal pile runoff, other industrial stormwater, and a small amount of service washwater runoff.
 - Cooling Pond** – (a.k.a., “Lake Busbee”): This is *outfall 002*. It receives water from the Waccamaw River to keep the pond from being stagnant (since the power plant is not operation) and a small amount of cooling water from the office heating and air conditioning system.
- Not Part of this Permit – the Ash Ponds Closure Plan:** As a separate matter, under a different regulatory process, DHEC is reviewing a plan to close the ash ponds. DHEC held a public hearing on April 23, 2013 about Santee Cooper’s plan. This plan is still under review.
- Changes at Grainger.** Santee Cooper has not generated electricity at this site since August 2011. However, an NPDES permit is still needed for wastewater discharges. While Santee Cooper is in a process of shutting down this facility, an NPDES permit is needed for some period of time in the future. Depending on the final closure plan, the closure of this site, including the ash ponds, may result in termination of the NPDES permit.
- NPDES Comments.** DHEC welcomes comments between August 30, 2013 and December 16, 2013. Comments can be made to the attention of Randy Thompson at: DHEC/Water, 2600 Bull Street, Columbia, SC 29201, or via fax at 803-898-4215, or via e-mail at Randy.Thompson@dhec.sc.gov. Comments can also be made at the hearing orally.

- Permit Issues.** In evaluating the NPDES permit for renewal, DHEC evaluated the pollutant limits that are needed for outfall 001 (Coal Ash Pond) and outfall 002 (Cooling Pond). This evaluation is different than factors being reviewed as part of the closure plan. In the NPDES permit, we evaluate compliance with stream water quality standards as the discharge mixes with the Waccamaw River.



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National Pollutant Discharge Elimination System Permit

for Discharge to Surface Waters

This Permit Certifies That

*South Carolina Public Service Authority
Grainger Generating Station*

has been granted permission to discharge from a facility located at

*Highway 501 Bypass
Conway, SC
Horry County*

to receiving waters named

*Outfall 001 - Waccamaw River
Outfall 002 - Wadus Lake to Waccamaw River*

in accordance with limitations, monitoring requirements and other conditions set forth herein. This permit is issued in accordance with the provisions of the Pollution Control Act of South Carolina (S.C. Code Sections 48-1-10 *et seq.*, 1976), Regulation 61-9 and with the provisions of the Federal Clean Water Act (PL 92-500), as amended, 33 U.S.C. 1251 *et seq.*, the "Act."

**Jeffrey P. deBessonnet, P.E., Director
Water Facilities Permitting Division**

Issue Date: *****

*Expiration Date*¹: *****

Effective Date: *****

Permit No.: SC0001104

¹ This permit will continue to be in effect beyond the expiration date if a complete timely re-application is received pursuant to Regulation 61-9.122.6 and signed per Regulation 61-9.122.22.

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PART I. Definitions

Any term not defined in this Part has the definition stated in the Pollution Control Act or in “Water Pollution Control Permits”, R.61-9 or its normal meaning.

- A. The “Act”, or CWA, shall refer to the Clean Water Act (Formerly referred to as the Federal Water Pollution Control Act) Public Law 92-500, as amended.
- B. The “average” or “arithmetic mean” of any set of values is the summation of the individual values divided by the number of individual values.
- C. “Basin” (or “Lagoon”) means any in-ground or earthen structure designed to receive, treat, store, temporarily retain and/or allow for the infiltration/evaporation of wastewater.
- D. “Blowdown” means the minimum discharge of recirculating water for the purpose of discharging materials contained in the water, the further buildup of which would cause concentration in amounts exceeding limits established by best engineering practices.
- E. “Bottom ash” means the ash that drops out of the furnace gas stream in the furnace and in the economizer sections. Economizer ash is included when it is collected with bottom ash (40 CFR 423.11(f)).
- F. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.
- G. “Chemical metal cleaning waste” means any wastewater resulting from the cleaning of any metal process equipment with chemical compounds, including, but not limited to, boiler tube cleaning (40 CFR 423.11(c)).
- H. “Coal pile runoff” means the rainfall runoff from or through any coal storage pile (40 CFR 423.11(m)).
- I. A “composite sample” shall be defined as one of the following four types:
 - 1. An influent or effluent portion collected continuously over a specified period of time at a rate proportional to the flow.
 - 2. A combination of not less than 8 influent or effluent grab samples collected at regular (equal) intervals over a specified period of time and composited by increasing the volume of each aliquot in proportion to flow. If continuous flow measurement is not used to composite in proportion to flow, the following method will be used: An instantaneous flow measurement should be taken each time a grab sample is collected. At the end of the sampling period, the instantaneous flow measurements should be summed to obtain a total flow. The instantaneous flow measurement can then be divided by the total flow to determine the percentage of each grab sample to be combined. These combined samples form the composite sample.
 - 3. A combination of not less than 8 influent or effluent grab samples of equal volume but at variable time intervals that are inversely proportional to the volume of the flow. In other words, the time interval between aliquots is reduced as the volume of flow increases.
 - 4. If the effluent flow varies by less than 15 percent, a combination of not less than 8 influent or effluent grab samples of constant (equal) volume collected at regular (equal) time intervals over a specified period of time.

All samples shall be properly preserved in accordance with Part II.J.4. Continuous flow or the sum of instantaneous flows measured and averaged for the specified compositing time period shall be used with composite results to calculate mass.

- J. “Daily discharge” means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the average measurement of the pollutant over the day.
- K. “Daily maximum” is the highest average value recorded of samples collected on any single day during the calendar month.
- L. “Daily minimum” is the lowest average value recorded of samples collected on any single day during the calendar month.
- M. The “Department” or “DHEC” shall refer to the South Carolina Department of Health and Environmental Control.
- N. “Fly ash” means the ash that is carried out of the furnace by the gas stream and collected by mechanical precipitators, electrostatic precipitators, and/or fabric filters. Economizer ash is included when it is collected with fly ash (40 CFR 423.11(e)).
- O. The “geometric mean” of any set of values is the Nth root of the product of the individual values where N is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).
- P. A “grab sample” is an individual, discrete or single influent or effluent portion of at least 100 milliliters collected at a time representative of the discharge and over a period not exceeding 15 minutes and retained separately for analysis.
- Q. “Groundwater” means the water below the land surface found in fractured rock or various soil strata.
- R. “Low volume waste sources” include, but are not limited to: wastewaters from wet scrubber air pollution control systems, ion exchange water treatment systems, water treatment evaporator blowdown, laboratory and sampling streams, boiler blowdown, floor drains, cooling tower basin cleaning wastes, and recirculating house service water systems. Sanitary and air conditioning wastes are not included (40 CFR 423.11(b)).
- S. The “maximum or minimum” is the highest or lowest value, respectively, recorded of all samples collected during the calendar month. These terms may also be known as the instantaneous maximum or minimum.
- T. “Metal cleaning waste” means any wastewater resulting from cleaning [with or without chemical cleaning compounds] any metal process equipment including, but not limited to, boiler tube cleaning, boiler fireside cleaning, and air preheater cleaning (40 CFR 423.11(d)).
- U. “Monitoring well” means any well used to sample groundwater for water quality analysis or to measure groundwater levels.

- V. The “monthly average”, other than for fecal coliform, E. Coli and enterococci, is the arithmetic mean of all samples collected in a calendar month period. The monthly average for fecal coliform, E. Coli and enterococci bacteria is the geometric mean of all samples collected in a calendar month period. The monthly average loading is the arithmetic average of all daily discharges made during the month.
- W. “Once through cooling water” means water passed through the main cooling condensers in one or two passes for the purpose of removing waste heat (40 CFR 423.11(g)).
- X. The “PCA” shall refer to the Pollution Control Act (Chapter 1, Title 48, Code of Laws of South Carolina).
- Y. The “practical quantitation limit” (PQL) is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. It is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed. It is also referred to as the reporting limit.
- Z. “Quarter” is defined as the first three calendar months beginning with the month that this permit becomes effective and each group of three calendar months thereafter.
- AA. “Quarterly average” is the arithmetic mean of all samples collected in a quarter.
- BB. “Recirculated cooling water” means water which is passed through the main condensers for the purpose of removing waste heat, passed through a cooling device for the purpose of removing such heat from the water then passed again, except for blowdown, through the main condenser (40 CFR 423.11(h)).
- CC. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
- DD. “Sludge” means industrial sludge. Industrial sludge is a solid, semi-solid, or liquid residue generated during the treatment of industrial wastewater in a treatment works. Industrial sludge includes, but is not limited to, industrial septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from industrial sludge. Industrial sludge does not include ash generated during the firing of industrial sludge in an industrial sludge incinerator or grit and screenings generated during preliminary treatment of industrial wastewater in a treatment works. Industrial sludge by definition does not include sludge covered under 40 CFR Part 503 or R.61-9.503.
- EE. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- FF. “Wastewater” means industrial wastewater. Industrial wastewater is wastewater generated from a federal facility, commercial or industrial process, including waste and wastewater from humans when generated at an industrial facility.

PART II. Standard Conditions

A. Duty to comply

The permittee must comply with all conditions of the permit. Any permit noncompliance constitutes a violation of the Clean Water Act and the Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. The Department's approval of wastewater facility plans and specifications does not relieve the permittee of responsibility to meet permit limits.

1. The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.
2. Failure to comply with permit conditions or the provisions of this permit may subject the permittee to civil penalties under S.C. Code Section 48-1-330 or criminal sanctions under S.C. Code Section 48-1-320. Sanctions for violations of the Federal Clean Water Act may be imposed in accordance with the provisions of 40 CFR Part 122.41(a)(2) and (3).
3. A person who violates any provision of this permit, a term, condition or schedule of compliance contained within this NPDES permit, or the State law is subject to the actions defined in the State law.

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. A permittee with a currently effective permit shall submit a new application 180 days before the existing permit expires, 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.

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. Duty to mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper operation and maintenance

1. The permittee shall at all times properly operate and maintain in good working order and operate as efficiently as possible all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes effective performance based on design facility removals, adequate funding, adequate

operator staffing and training and also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Power Failures. In order to maintain compliance with effluent limitations and prohibitions of this permit, the permittee shall either:
 - a. provide an alternative power source sufficient to operate the wastewater control facilities;
 - b. or have a plan of operation which will halt, reduce, or otherwise control production and/or all discharges upon the reduction, loss, or failure of the primary source of power to the wastewater control facilities.
3. The permittee shall develop and maintain at the facility a complete Operations and Maintenance Manual for the waste treatment facilities. The manual shall be made available for on-site review during normal working hours. The manual shall contain operation and maintenance instructions for all equipment and appurtenances associated with the waste treatment facilities and land application system, if applicable. The manual shall contain a general description of the treatment process(es), the operational procedures to meet the requirements of E.1 above, and the corrective action to be taken should operating difficulties be encountered.
4. The Department is granting an exception to the daily inspection requirement pursuant to R.61-9.122.41(e)(3)(ii)(D) and in accordance with supporting information provided by the permittee in an August 28, 2013 email. The permittee shall provide for the performance of weekly treatment facility inspections by a certified operator of the appropriate grade as defined in Part V.E of this permit. The inspections shall include, but should not necessarily be limited to, areas which require visual observation to determine efficient operation and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time, and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permitted facility as required by the permit, and the records shall be made available for on-site review during normal working hours.
5. A roster of operators associated with the facility's operation and their certification grades shall be submitted to the DHEC/Bureau of Water/Water Pollution Control Division. For existing facilities, this roster shall be submitted within thirty (30) days of the effective date of this permit. For new facilities, this roster must be submitted prior to placing the facility into operation. Additionally, any changes in operator or operators (including their certification grades) shall be submitted to the Department as they occur.
6. Wastewater Sewer Systems
 - a. Purpose. This section establishes rules for governing the operation and maintenance of wastewater sewer systems, including gravity or pressure interceptor sewers. It is the purpose of this section to establish standards for the management of sewer systems to prevent and/or minimize system failures that would lead to public health or environmental impacts.
 - b. Applicability. This section applies to all sewer systems that have been or would be subject to a DHEC construction permit under Regulation 61-67 and whose owner owns or operates the wastewater treatment system to which the sewer discharges.

c. General requirements. The permittee must:

- (1) Properly manage, operate, and maintain at all times all parts of its sewer system(s), to include maintaining contractual operation agreements to provide services, if appropriate;
- (2) Provide adequate capacity to convey base flows and peak flows for all parts of the sewer system or, if capital improvements are necessary to meet this standard, develop a schedule of short and long term improvements;
- (3) Take all reasonable steps to stop and mitigate the impact of releases of wastewater to the environment; and
- (4) Notify the Department within 30 days of a proposed change in ownership of a sewer system.

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.

G. Property rights

This permit does not convey any property rights of any sort, or any exclusive privilege nor does it authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

H. Duty to provide information

The permittee shall furnish to the Department, within a reasonable time, any 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 the Department, or an authorized representative (including an authorized contractor acting as a representative of the Department), upon presentation of credentials and other documents as may be required by law, to:

1. Enter 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 Clean Water Act and Pollution Control Act, any substances or parameters at any location.

J. Monitoring and records

1. a. (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
 - (2) Samples shall be reasonably distributed in time, while maintaining representative sampling.
 - (3) No analysis, which is otherwise valid, shall be terminated for the purpose of preventing the analysis from showing a permit or water quality violation.
- b. Flow Measurements.
 - (1) Where primary flow meters are required, appropriate flow measurement devices and methods consistent with accepted scientific practices shall be present and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to ensure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from the true discharge rates throughout the range of expected discharge volumes. The primary flow device, where required, must be accessible to the use of a continuous flow recorder.
 - (2) Where permits require an estimate of flow, the permittee shall maintain at the permitted facility a record of the method(s) used in estimating the discharge flow (e.g., pump curves, production charts, water use records) for the outfall(s) designated on limits pages to monitor flow by an estimate.
 - (3) Records of any necessary calibrations must be kept.
2. Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by R.61-9.503 or R.61-9.504), 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, 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 or application. This period may be extended by request of the Department at any time.
3. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurements;
 - b. The individual(s) who performed the sampling or measurements;
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;

- e. The analytical techniques or methods used; and
 - f. The results of such analyses.
4. a. Analyses for required monitoring must be conducted according to test procedures approved under 40 CFR Part 136, equivalent test procedures approved by the Department or other test procedures that have been specified in the permit.

In the case of sludge use or disposal, analysis for required monitoring must be conducted according to test procedures approved under 40 CFR Part 136, test procedures specified in R.61-9.503 or R.61-9.504, equivalent test procedures approved by the Department or other test procedures that have been specified in the permit.

- b. Unless addressed elsewhere in this permit, the permittee shall use a sufficiently sensitive analytical method that achieves a value below the derived permit limit stated in Part III. If more than one method of analysis is approved for use, the Department recommends for reasonable potential determinations that the permittee use the method having the lowest practical quantitation limit (PQL) unless otherwise specified in Part V of the permit. For the purposes of reporting analytical data on the Discharge Monitoring Report (DMR):
 - (1) Analytical results below the PQL conducted using a method in accordance with Part II.J.4.a above shall be reported as zero (0). Zero (0) shall also be used to average results which are below the PQL. When zero (0) is reported or used to average results, the permittee shall report, in the "Comment Section" or in an attachment to the DMR, the analytical method used, the PQL achieved, and the number of times results below the PQL were reported as zero (0).
 - (2) Analytical results above the PQL conducted using a method in accordance with Part II.J.4.a shall be reported as the value achieved. When averaging results using a value containing a "less than," the average shall be calculated using the value and reported as "less than" the average of all results collected.
 - (3)(a) The mass value for a pollutant collected using a grab sample shall be calculated using the 24-hour totalized flow for the day the sample was collected (if available) or the instantaneous flow at the time of the sample and either the concentration value actually achieved or the value as determined from the procedures in (1) or (2) above, as appropriate. Grab samples should be collected at a time representative of the discharge.
 - (b) The mass value for a pollutant collected using a composite sample shall be calculated using the 24-hour totalized flow measured for the day the sample was collected and either the concentration value actually achieved or the value as determined from the procedures in (1) or (2) above, as appropriate.
5. The PCA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$25,000 or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment provided by the Clean Water Act is also by imprisonment of not more than 4 years.

K. Signatory requirement.

1. All applications, reports, or information submitted to the Department shall be signed and certified.
 - 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:
 - (a) 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
 - (b) The manager of one or more manufacturing, production, or operating facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - (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 or public facility: By either a principal executive officer, mayor, or other duly authorized employee or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - (a) The chief executive officer of the agency, or
 - (b) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator, Region IV, EPA).
 - b. All reports required by permits, and other information requested by the Department, shall be signed by a person described in Part II.K.1.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 Part II.K.1.a of this section;
 - (2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (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 Part II.K.1.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 Part II.K.1.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. Certification. Any person signing a document under Part II.K.1.a or b of this section shall make the following certification: "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 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. The PCA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$25,000 per violation, or by imprisonment for not more than two years per violation, or by both.

L. Reporting requirements

1. Planned changes.

The permittee shall give written notice to DHEC/Bureau of Water/Water Facilities Permitting Division as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in R 61-9.122.29(b); or
 - b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Part II.L.8 of this section.
 - c. The alteration or addition results in a significant change in the permittee's sewage sludge or industrial sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan (included in the NPDES permit directly or by reference);
- ##### 2. Anticipated noncompliance.

The permittee shall give advance notice to the DHEC/Bureau of Water/Water Pollution Control Division of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers.

This permit is not transferable to any person except after written notice to the DHEC/Bureau of Water/NPDES Administration. The Department may require modification or revocation and reissuance of the permit to change the name of permittee and incorporate such other requirements as may be necessary under the Pollution Control Act and the Clean Water Act.

- a. Transfers by modification. Except as provided in paragraph b of this section, 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 R.61-9.122.62(e)(2)), or a minor modification made (under R.61-9.122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.
- b. Other transfers. As an alternative to transfers under paragraph a of this section, any NPDES permit may be transferred to a new permittee if:
 - (1) The current permittee notifies the Department at least 30 days in advance of the proposed transfer date in Part II.L.3.b(2) of this section;
 - (2) The notice includes U.S. EPA NPDES Application Form 1 and a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
 - (3) Permits are non-transferable except with prior consent of the Department. A modification under this section is a minor modification which does not require public notice.

4. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit. Monitoring periods are calculated beginning with the permit effective date unless otherwise stated elsewhere in this permit. If the permit is modified, monitoring periods are calculated beginning with the modification effective date for those items that are part of the modification unless otherwise stated elsewhere in this permit.

- a. Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Department for reporting results of monitoring of groundwater or sludge use or disposal practices including the following:
 - (1) Effluent Monitoring: Effluent monitoring results obtained at the required frequency shall be reported on a Discharge Monitoring Report Form (EPA Form 3320-1). The DMR is due postmarked no later than the 28th day of the month following the end of the monitoring period. One original and one copy of the Discharge Monitoring Reports (DMRs) shall be submitted to:

S.C. Department of Health and Environmental Control
Bureau of Water/Water Pollution Control Division
Data and Records Management Section
2600 Bull Street
Columbia, South Carolina 29201

- (2) Groundwater Monitoring: Groundwater monitoring results obtained at the required frequency shall be reported on a Groundwater Monitoring Report Form (DHEC 2110) (or in the laboratory report from the

analyzing laboratory) postmarked no later than the 28th day of the month following the end of the monitoring period. One original and one copy of the Groundwater Monitoring Report Form (DHEC 2110) (or the laboratory report from the analyzing laboratory) shall be submitted to:

S.C. Department of Health and Environmental Control
Bureau of Water/Water Pollution Control Division
Data and Records Management Section
2600 Bull Street
Columbia, South Carolina 29201

- (3) Sludge, Biosolids and/or Soil Monitoring: Sludge, biosolids and/or soil monitoring results obtained at the required frequency shall be reported in a laboratory format as stated in Part V of the permit postmarked no later than the 28th day of the month following the end of the monitoring period, unless otherwise stated elsewhere in this permit. Two copies of these results shall be submitted to:

S.C. Department of Health and Environmental Control
Bureau of Water/Water Pollution Control Division
Data and Records Management Section
2600 Bull Street
Columbia, South Carolina 29201

- (4) All other reports required by this permit shall be submitted postmarked no later than the 28th day of the month following the end of the monitoring period, unless otherwise stated elsewhere in this permit. Two copies of these reports shall be submitted to:

S.C. Department of Health and Environmental Control
Bureau of Water/Water Pollution Control Division
Data and Records Management Section
2600 Bull Street
Columbia, South Carolina 29201

- b. If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in R.61-9.503 or R.61-9.504, or as specified in the permit, all valid results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Department. The permittee has sole responsibility for scheduling analyses, other than for the sample date specified in Part V, so as to ensure there is sufficient opportunity to complete and report the required number of valid results for each monitoring period.
- c. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the Department in the permit.
5. Twenty-four hour reporting
- a. The permittee shall report any non-compliance, which may endanger health or the environment. Any information shall be provided orally to local DHEC office within 24 hours from the time the permittee becomes aware of the circumstances. During normal working hours call:

County	DHEC Regional Area	Phone No.
Anderson, Oconee	Upstate Region BEHS Anderson	864-260-5569
Abbeville, Edgefield, Greenwood, Laurens, McCormick, Saluda	Upstate Region BEHS Greenwood	864-223-0333
Greenville, Pickens	Upstate Region BEHS Greenville	864-241-1090
Cherokee, Spartanburg, Union	Upstate Region BEHS Spartanburg	864-596-3800
Fairfield, Lexington, Newberry, Richland	Midlands Region BEHS Columbia	803-896-0620
Chester, Lancaster, York	Midlands Region BEHS Lancaster	803-285-7461
Aiken, Allendale, Bamberg, Barnwell, Calhoun, Orangeburg	Midlands Region BEHS Aiken	803-642-1637
Chesterfield, Darlington, Dillon, Florence, Marion, Marlboro	Pee Dee Region BEHS Florence	843-661-4825
Clarendon, Kershaw, Lee, Sumter	Pee Dee Region BEHS Sumter	803-778-6548
Georgetown, Horry, Williamsburg	Pee Dee Region BEHS Myrtle Beach	843-238-4378
Berkeley, Charleston, Dorchester	Low Country Region BEHS Charleston	843-953-0150
Beaufort, Colleton, Hampton, Jasper	Low Country Region BEHS Beaufort	843-846-1030

*After-hour reporting should be made to the 24-Hour Emergency Response telephone number 803-253-6488 or 1-888-481-0125 outside of the Columbia area.

A written submission shall also be provided to the address in Part II.L.4.a(4) 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.

- b. The following shall be included as information which must be reported within 24 hours under this paragraph.
- (1) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See R.61-9.122.44(g)).
 - (2) Any upset which exceeds any effluent limitation in the permit.
 - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Department in the permit to be reported within 24 hours (See R 61-9.122.44(g)). If the permit contains maximum limitations for any of the pollutants listed below, a violation of the maximum limitations shall be reported orally to the DHEC/Bureau of Water/Water Pollution Control Division within 24 hours or the next business day.

- (a) Whole Effluent Toxicity (WET),
- (b) tributyl tin (TBT), and
- (c) any of the following bioaccumulative pollutants:

α BHC	Mercury
β BHC	Mirex
δ BHC (Lindane)	Octachlorostyrene
BHC	PCBs
Chlordane	Pentachlorobenzene
DDD	Photomirex
DDE	1,2,3,4-Tetrachlorobenzene
DDT	1,2,4,5-Tetrachlorobenzene
Dieldrin	2,3,7,8-TCDD
Hexachlorobenzene	Toxaphene
Hexachlorobutadiene	

- c. The Department may waive the written report on a case-by-case basis for reports under Part II.L.5.b of this section if the oral report has been received within 24 hours.

6. Other noncompliance.

The permittee shall report all instances of noncompliance not reported under Part II.L.4 and 5 of this section and Part IV at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.L.5 of this section.

7. 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 to the Water Facilities Permitting Division. This information may result in permit modification, revocation and reissuance, or termination in accordance with Regulation 61-9.

8. Existing manufacturing, commercial, mining, and silvicultural dischargers.

In addition to the reporting requirements under Part II.L.1-7 of this section, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the DHEC/Bureau of Water/Water Pollution Control Division of the Department as soon as they know or have reason to believe:

- a. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following “notification levels”:

- (1) One hundred micrograms per liter (100 $\mu\text{g/l}$);

- (2) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application; or
 - (4) The level established by the Department in accordance with section R.61-9.122.44(f).
- b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed in the highest of the following “notification levels”:
- (1) Five hundred micrograms per liter (500 µg/l);
 - (2) One milligram per liter (1 mg/l) for antimony;
 - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with R.61-9.122.21(g)(7).
 - (4) The level established by the Department in accordance with section R.61-9.122.44(f).

M. Bypass

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.M.2 and 3 of this section.
2. Notice.
 - a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible, at least ten days before the date of the bypass to the DHEC/Bureau of Water/ Water Facilities Permitting Division.
 - b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.L.5 of this section.
3. Prohibition of bypass
 - a. Bypass is prohibited, and the Department may take enforcement action against a permittee for bypass, unless:
 - (1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of

reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(3) The permittee submitted notices as required under Part II.M.2 of this section.

b. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the three conditions listed above in Part II.M.3.a of this section.

N. Upset

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Part II.N.2 of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated; and
 - c. The permittee submitted notice of the upset as required in Part II.L.5.b(2) of this section.
 - d. The permittee complied with any remedial measures required under Part II.D of this section.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Misrepresentation of Information

1. Any person making application for a NPDES discharge permit or filing any record, report, or other document pursuant to a regulation of the Department, shall certify that all information contained in such document is true. All application facts certified to by the applicant shall be considered valid conditions of the permit issued pursuant to the application.
2. Any person who knowingly makes any false statement, representation, or certification in any application, record, report, or other documents filed with the Department pursuant to the State law, and the rules and regulations pursuant to that law, shall be deemed to have violated a permit condition and shall be subject to the penalties provided for pursuant to 48-1-320 or 48-1-330.

Part III. Limitations and Monitoring Requirements

A. Effluent Limitations and Monitoring Requirements **FINAL LIMITS**

1. a. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number 001: Coal pile runoff, other industrial stormwater runoff, and service washwater runoff.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass		Concentration			Sampling Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Instantaneous Maximum ¹		
Flow	MR ² , MGD	MR ² , MGD	-	-	-	Daily	Flow Indicator ³
pH	-	-	Min ¹ 5.0 su		Max 8.5 su	2/month	Grab
Total Suspended Solids (TSS)	-	-	30 mg/l	100 mg/l	-	2/month	Grab
Oil & Grease	-	-	15 mg/l	20 mg/l	-	2/month	Grab
Arsenic, total ⁴	-	-	MR ² , ug/l	MR ² , ug/l	-	2/month	24-Hour Composite
Mercury, total ⁴	-	-	MR ² , ng/l	MR ² , ng/l	-	1/year	Grab

¹ See Part I.S

² MR: Monitor and Report

³ See Part II.J.1.b

⁴ See V.A.4

a. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): after treatment and prior to mixing with the receiving stream or any other waste stream.

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2.a.

INTERIM LIMITS

During the period beginning on the effective date of this permit and lasting through 26 months after the effective date the permittee is authorized to discharge from outfall serial number 002: Cooling pond discharge consisting of water pumped from the Waccamaw River and non-contact cooling water from the office heating and air conditioning system.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass		Concentration			Sampling Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Instantaneous Maximum ¹		
Flow	MR ² , MGD	MR ² , MGD				Continuous	Recorder or Pump Logs ^{3,4}
pH			Min ¹ MR ² , su		Max MR ² , su	1/month	Grab
Copper, total ⁵			MR ² , ug/l	MR ² , ug/l	-	1/month	24-Hour Composite

¹See Part I.S

²MR: Monitor and Report

³See Part II.J.1.b

⁴See Part V.A.3

⁵See V.A.4

- a. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): after treatment and prior to mixing with the receiving stream or any other waste stream.

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- 2.b. **FINAL LIMITS**
 During the period beginning on 26 months after the effective date of this permit and lasting through the expiration date the permittee is authorized to discharge from outfall serial number 002: Cooling pond discharge consisting of water pumped from the Waccamaw River and non-contact cooling water from the office heating and air conditioning system.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass		Concentration			Sampling Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	Instantaneous Maximum ¹		
Flow	MR ² , MGD	MR ² , MGD				Continuous	Recorder or Pump Logs ^{3,4}
pH			Min ¹ 6.0 su		Max 8.5 su	1/month	Grab
Copper, total ⁵			3.7 ug/l	5.8 ug/l	-	1/month	24-Hour Composite

¹See Part I.S

²MR: Monitor and Report

³See Part II.J.1.b

⁴See Part V.A.3

⁵See V.A.4

- a. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): after treatment and prior to mixing with the receiving stream or any other waste stream.

B. Whole Effluent Toxicity and Other Biological Limitations and Monitoring Requirements

During the period beginning on the effective date and lasting through the expiration date, the permittee is authorized to discharge from outfall 001: Coal pile runoff, other industrial stormwater runoff, and service washwater runoff.

Such discharge shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	Monthly Average	Daily Maximum	Measurement Frequency	Sample Type
<i>Ceriodaphnia dubia</i> Chronic Whole Effluent Toxicity @ CTC= 15.8%	MR %	MR %	1/year	24 hour composite

See Part V.B.1 for additional toxicity reporting requirements.
MR = Monitor and Report.

The following notes apply only to valid tests. For invalid tests see Part V.B.

Note 1: The overall % effect is defined as the larger of the % survival effect or the % reproduction effect from DMR Attachment Form 3880.

Note 2: If only one test is conducted during a month, the monthly average and daily maximum are each equal to the overall % effect.

Note 3: If more than one test is conducted during a month, the monthly average is the arithmetic mean of the overall % effect values of all tests conducted during the month.

Note 4: The monthly average to be reported on the DMR is the highest monthly average for any month during the monitoring period. There is no averaging of data from tests from one month to another.

Note 5: The daily maximum to be reported on the DMR is the highest of the % survival effect or % reproduction effect of all tests conducted during the monitoring period.

Note 6: When a sample is collected in one month and the test is completed in the next month, the overall % effect applies to the month in which the sample was collected.

Note 7: Tests must be separated by at least 7 days (from the time the first sample is collected to start one test until the time the first sample is collected to start a different test). There is no restriction on when a new test may begin following a failed or invalid test.

Note 8: For any split sample:

- a. Determine the % survival effect and % reproduction effect values separately for each test.
- b. Determine the arithmetic mean of the % survival effects and of the % reproduction effects for all tests.
- c. The monthly average and daily maximum shall be the higher of the % effect values from (b) above.
- d. For the purposes of reporting, split samples are reported as an individual sample regardless of the number of times it is split. All laboratories used shall be identified on the DMR attachment and each test shall be reported individually on DMR Attachment Form DHEC 3880 (08/2005).

1. Samples used to demonstrate compliance with the discharge limitations and monitoring requirements specified above shall be taken at or near the final point-of-discharge but prior to mixing with the receiving waters or other waste streams.

C. Groundwater Monitoring Requirements

1. During the period beginning on the effective date of this permit and lasting through the expiration date, the permittee shall monitor the ten groundwater monitoring wells GGSMW-1 through GGSMW-6 and GGSMW-9 through GGSMW-12 as specified below:

PARAMETER ²	MEASUREMENT FREQUENCY	SAMPLE METHOD
Groundwater Elevation	Semi-annually ¹	Pump Method
Depth to Water	Semi-annually ¹	Pump Method
Water Temperature	Semi-annually ¹	Pump Method
Field Specific Conductance	Semi-annually ¹	Pump Method
Field pH	Semi-annually ¹	Pump Method
Turbidity	Semi-annually ¹	Pump Method
Total Suspended Solids	Semi-annually ¹	Pump Method
Total Dissolved Solids	Semi-annually ¹	Pump Method
Chloride	Semi-annually ¹	Pump Method
Sulfate	Semi-annually ¹	Pump Method
Oxidation Reduction Potential	Semi-annually ¹	Pump Method
Arsenic, total	Semi-annually ¹	Pump Method
Arsenic, dissolved	Semi-annually ¹	Pump Method
Barium, total	Semi-annually ¹	Pump Method
Cadmium, total	Semi-annually ¹	Pump Method
Chromium, total	Semi-annually ¹	Pump Method
Copper, total	Semi-annually ¹	Pump Method
Iron, total	Semi-annually ¹	Pump Method
Lead, total	Semi-annually ¹	Pump Method
Selenium, total	Semi-annually ¹	Pump Method
Thallium, total	Semi-annually ¹	Pump Method
Zinc, total	Semi-annually ¹	Pump Method

¹ Semi-annual samples shall be taken in the months of April and October of each year.

² See Part II.L.4.a(2) for reporting requirements.

2. Groundwater sample collection methods shall be in accordance with with EPA publication SESDPROC 301-R2, effective date October 2011.
3. All groundwater monitoring wells must be properly maintained at all times so that they yield representative aquifer samples. If the groundwater elevation drops to a level that prevents the acquisition of a sample for two consecutive sampling periods, then this well shall be considered “rendered unusable” in accordance with Regulation 61-71. Any monitoring well which is destroyed, rendered unusable, or abandoned, shall be reported to the Department, and shall be properly abandoned, revitalized, or replaced. The permittee shall revitalize or replace the dry well within six months after recording the second dry sampling period.
4. In the event flooding is encountered and access to GGSMW-3 and/or GGSMW-4 is prevented, the well(s) will be sampled at the earliest possible opportunity following the flood event.

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5. If groundwater sampling shows that standards are exceeded or a significant adverse trend occurs, it is the obligation of the permittee as directed by the Department to conduct an investigation. The Department may require remediation of the groundwater as set forth in R.61-68.

D. Sludge Monitoring Requirements

Not applicable

E. Soil Monitoring Requirements

Not applicable

Part IV. Schedule of Compliance

A. Schedule(s)

1. For the copper and pH limits on Outfall 002:

Date Due	Action Required
4 months after effective date	Submit a report describing how Grainger intends to comply with the copper and pH limitations on page 22 of this permit.
10 months after effective date	<p>If construction of any wastewater treatment and/or collection facilities is necessary to meet these limitations, the permittee shall submit three copies of an administratively and technically complete Construction Permit Application Package (DHEC Form 1970).</p> <p>If no construction of any wastewater treatment and/or collection facilities is necessary, provide a progress report describing measures to comply with the copper and pH limitations set forth on page 22 of this permit.</p> <p>If the selected alternative is to eliminate Outfall 002, the permittee shall submit three copies of an administratively and technically complete Closure Plan.</p>
12 months after effective date	The permittee shall provide an interim report of progress describing measures to comply with the copper and pH limitations set forth on page 22 of this permit.
20 months after effective date	<p>Submit an interim report of progress describing measures to comply with the copper and pH limitations set forth on page 22 of this permit.</p> <p>The permittee shall begin construction of the wastewater treatment facilities, if needed.</p> <p>The permittee shall begin closure, if needed.</p>
26 months after effective date	<p>The permittee shall obtain an operating permit for wastewater treatment facilities detailed in the construction permit application submittal described above, if needed.</p> <p>The permittee shall complete closure as required by the approved Closure Plan described above, if needed.</p> <p>Provide a final progress report on the system. The discharge shall be in compliance with the copper and pH limitations set forth on page 22 of this permit. If the selected alternative is to eliminate Outfall 002, the permit will be modified to eliminate Outfall 002.</p>

B. 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 scheduled date.

Part V. Other Requirements

A. Effluent Requirements

1. There shall be no discharge of floating solids or visible foam in other than trace amounts, nor shall the effluent cause a visible sheen on the receiving waters.
2. There shall be no discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid.
3. The permittee shall maintain at the permitted facility a record of the method(s) used in measuring the discharge flow:
 - a) Estimate - Pump Curve, Production Chart, Water Use Records
 - b) Instantaneous - Bucket and Watch, Weir and Gauge, Parshall Flume
 - c) Continuous - Totalizer, Continuous Chart Recorder

Records of any necessary calibrations must also be kept. This information shall be made available for on-site review by Department personnel during normal working hours.

4. Where the permit limitation Part III is below the practical quantitation limit (PQL), the PQL and analytical method stated below shall be considered as being in compliance with the permit limit. Additionally, where the permit requires only monitoring and reporting (MR) in Part III, the PQL and analytical method stated below shall be used for reporting results.

Parameter	Analytical Method	PQL
Arsenic (As)	EPA Approved Methods 200.8, 200.9, SM3113B	0.0050 mg/l
Copper (Cu)	EPA Approved Methods 200.7, 200.8, 200.9, SM3113B	0.010 mg/l
Mercury (Hg)	EPA Approved Methods 1669 (Sampling)/1631E (Analysis)	0.5 ng/l

5. Unless authorized elsewhere in this permit, the permittee must meet the following requirements concerning maintenance chemicals for the following waste streams: once-through noncontact cooling water. Maintenance chemicals shall be defined as any man-induced additives that may be added to the referenced waste streams.
 - a. Detectable amounts of any of the one hundred and twenty-six priority pollutants is prohibited in the discharge, if the pollutants are present due to the use of maintenance chemicals.
 - b. Slimicides, algicides and biocides are to be used in accordance with registration requirements of the Federal Insecticides, Fungicide and Rodenticide Act.
 - c. The use of maintenance chemicals containing bis(tributyltin) oxide is prohibited.
 - d. Any maintenance chemicals added must degrade readily, either due to hydrolytic decomposition or biodegradation.
 - e. Discharges of maintenance chemicals added to waste streams must be limited to concentrations which

protect indigenous aquatic populations in the receiving stream.

- f. The permittee must keep the following documentation on-site for each maintenance chemical used. The information shall be made available for on-site review by Department personnel during normal working hours.
 - (1) Material Safety Data Sheets (MSDS) including name, general composition, and aquatic toxicity information (i.e., NOEC or LC50) for each chemical used;
 - (2) Quantity of each chemical used,
 - (3) Frequency and location of use (including outfall to which it flows), and
 - (4) Information, samples and/or calculations which demonstrate compliance with items (a) – (e) above.
- g. The permittee shall submit the information in (f) above with each permit renewal application.
- h. The Department may request submittal of the information in (f) above at any time to determine permit compliance and may modify this permit to include additional monitoring and/or limitations as necessary to protect water quality.

B. Whole Effluent Toxicity and Other Biological Requirements

1. Chronic Toxicity - For the requirements identified in Part III.B:

- a. A *Ceriodaphnia dubia* three brood chronic toxicity test shall be conducted at the frequency stated in Part III.B, Effluent Toxicity Limitations and Monitoring Requirements, using the chronic test concentration (CTC) of 15.8% and the following test concentrations: 0% (control), 4%, 8.9%, 15.8%, 44.7% and 100% effluent. The permittee may add additional test concentrations without prior authorization from the Department provided that the test begins with at least 10 replicates in each concentration and all data is used to determine permit compliance.
- b. The test shall be conducted using EPA Method 1002.0 in accordance with “Short-Term Methods for Estimating Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,” EPA/821/R-02/013 (October 2002).
- c. The permittee shall use the linear interpolation method described in “Short-Term Methods for Estimating Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms,” EPA/821/R-02/013 (October 2002), Appendix M to estimate the percent effect at the CTC according to the equations in d below.
- d. The linear interpolation estimate of percent effect is $\left(1 - \frac{M_{CTC}}{M_1}\right) * 100$ if the CTC is a tested

concentration. Otherwise, it is $\left(1 - \frac{M_J - \frac{M_{J+1} - M_J}{C_{J+1} - C_J} * C_J + \frac{M_{J+1} - M_J}{C_{J+1} - C_J} * CTC}{M_1}\right) * 100$.

- e. A test shall be invalidated if any part of Method 1002.0 is not followed or if the laboratory is not certified at the time the test is conducted.
 - f. All valid toxicity test results shall be submitted on the DHEC Form 3880 (08/2005) entitled “DMR Attachment for Toxicity Test Results” in accordance with Part II.L.4. In addition, results from all invalid tests must be appended to DMRs, including lab control data. The permittee has sole responsibility for scheduling toxicity tests so as to ensure there is sufficient opportunity to complete and report the required number of valid test results for each monitoring period.
 - g. The permittee is responsible for reporting a valid test during each monitoring period. However, the Department acknowledges that invalid tests may occur. All of the following conditions must be satisfied for the permittee to be in compliance with Whole Effluent Toxicity (WET) testing requirements for a particular monitoring period when a valid test was not obtained.
 - (1) A minimum of three (3) tests have been conducted which were invalid in accordance with Part V.B.1.e above;
 - (2) The data and results of all invalid tests are attached to the DMR;
 - (3) At least one additional State-certified laboratory was used after two (2) consecutive invalid tests were determined by the first laboratory. The name(s) and lab certification number(s) of the additional lab(s) shall be reported in the comment section of the DMR; and
 - (4) A valid test was reported during each of the previous three reporting periods.
- If these conditions are satisfied, the permittee may enter “H” in the appropriate boxes on the toxicity DMR and add the statement to the Comment Section of the DMR that “H indicates invalid tests.”
- h. This permit may be modified based on new information that supports a modification in accordance with Regulation 61-9.122.62 and Regulation 61-68.D.

C. Groundwater Requirements

See Part III.C.

D. Sludge/Ash Requirements

- 1. The permittee shall apply in writing to DHEC requesting written approval for sludge/ash disposal. A letter of acceptance from the facility that will accept the sludge/ash for disposal or reuse shall be included with the request.

E. Other Conditions

- 1. The wastewater treatment plant is assigned a classification of Group I-P/C. This classification corresponds to an operator with a Grade of D-P/C.
- 2. The permittee shall maintain an all weather access road to the wastewater treatment plant and appurtenances at all times.

3. The permittee shall continue to maintain a Best Management Practices (BMP) plan to identify and control the discharge of significant amounts of oils and the hazardous and toxic substances listed in 40 CFR Part 117 and Tables II and III of Appendix D to 40 CFR Part 122. The plan shall include a listing of all potential sources of spills or leaks of these materials, a method for containment, a description of training, inspection and security procedures, and emergency response measures to be taken in the event of a discharge to surface waters or plans and/or procedures which constitute an equivalent BMP. Sources of such discharges may include materials storage areas; in-plant transfer, process and material handling areas; loading and unloading operations; plant site runoff; and sludge and waste disposal areas. The BMP plan shall be developed in accordance with good engineering practices, shall be documented in narrative form, and shall include any necessary plot plans, drawings, or maps. The BMP plan shall be maintained at the plant site and shall be available for inspection by EPA and Department personnel.
4. The company shall notify the South Carolina Department of Health and Environmental Control in writing no later than sixty (60) days prior to instituting use of any additional maintenance chemicals in the cooling water system. Such notification shall include:
 - a. Name and general composition of the maintenance chemical
 - b. Quantities to be used
 - c. Frequency of use
 - d. Proposed discharge concentration
 - e. EPA registration number, if applicable
 - f. Aquatic toxicity information
5. The permittee shall not store coal, soil nor other similar erodible materials in a manner in which runoff is uncontrolled, nor conduct construction activities in a manner which produces uncontrolled runoff unless such uncontrolled runoff has been specifically approved by SCDHEC. "Uncontrolled" shall mean without sedimentation basin or other controls approved by SCDHEC.
6. Coal Ash Basin Requirements:
 - a. Coal Ash Basin Integrity Inspections
 - (1) Coal ash basins shall be inspected at least monthly by qualified personnel with knowledge and training in impoundment integrity. In addition, impoundments shall be inspected annually by a qualified, State-registered professional engineer. At least one additional inspection by qualified personnel shall be performed within 7 days after a 10-year, 24 hour precipitation event at the site.
 - (2) Inspections shall, at a minimum, include the following: observations of dams, dikes and toe areas for erosion, cracks or bulges, seepage, or wet or soft soil; changes in geometry, the depth and elevation of the impounded water, sediment or slurry, or freeboard; changes in vegetation such as overly lush, dead or unnaturally tilted vegetation or tress or other vegetation growing in or on the basin or basin dikes; and any other changes which may indicate a potential compromise to impoundment integrity. When practicable, piezometers or other instrumentation may be installed as a means to aid monitoring of basin integrity.
 - (3) Within 24 hours of discovering changes (e.g., significant increases in seepage or seepage carrying

sediment) that indicate an imminent threat to the structural integrity of the basin, the permittee shall begin procedures to remediate the problem, if remediation is determined to be necessary.

b. Reporting and Recordkeeping Requirements for Coal Ash Basins

- (1) Within 5 days of discovering any changes in the basin that indicate a potential compromise to the structural integrity, the permittee must notify the Department in writing at the address in Part II.L.4(a)(4) describing the findings of the inspection, corrective measures taken or planned, and a timeline for implementation of the planned measures.
- (2) The permittee shall submit an annual report to the Department summarizing findings of all monitoring activities, inspections, and remediation measures pertaining to the structural integrity and operation and maintenance of coal ash basins. The report shall be submitted to the Department in accordance with Part II.L.4(a)(4).
- (3) With regards to other issues which may have long term impacts on integrity, such as the items described in 4.10.2 of the permittee's BMP plan (revised 2/17/2012), a plan to address these issues shall be submitted to the Department within 45 days of discovery (or 45 days of the effective date of the permit if the condition already exists). A discussion of the need for remedial action in these situations shall be included in the plan. The report shall be submitted to the Department in accordance with Part II.L.4(a)(4).
- (4) The permittee shall maintain records of all inspection and maintenance activities, including corrective actions made in response to inspections and all other activities undertaken to repair or maintain the basin. All records shall be kept on site and made available to State or Federal inspectors upon request.
- (5) All pertinent basin permits, design, construction, operation, and maintenance information, including but not limited to plans, geotechnical and structural integrity documentation, copies of permits, associated certifications by a qualified inspector, and other pertinent information, shall be kept on site and made available to State or Federal inspectors upon request.

c. Permit Re-opener: This permit may be reopened to incorporate new requirements pertaining to the operation and maintenance of coal ash basins.

7. The permittee shall monitor all parameters consistent with conditions established by this permit on the 1st Tuesday of every calendar month in which sampling is required, unless otherwise approved by this Department. If this day falls on a holiday, sampling shall be conducted on the next business day. If no discharge occurs on this day, the permittee shall collect an effluent sample during the reporting period on a day when there is a discharge or report "no discharge" for the reporting period for all parameters. Additional monitoring as necessary to meet the frequency requirements of this permit shall be performed by the permittee.
8. The permittee shall notify the affected downstream water treatment plant(s) of any emergency condition, plant upset, bypass or other system failure which has the potential to affect the quality of water withdrawn for drinking water purposes. This notification should be made as soon as possible and in anticipation of such event, if feasible, without taking away from any response time necessary to attempt to alleviate the situation.

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9. Any storm water that passes through Outfall 001 that is subject to the definition of “storm water associated with industrial activity” shall meet the requirements of Appendix A. Other stormwater outfalls that are not combined with wastewater should be covered under the NPDES General Permit for Storm Water Associated with Industrial Activity via number SCR004149. Note that for combined stormwater and wastewater outfalls where the stormwater can be sampled separately prior to mixing with the wastewater, the stormwater portion should be covered under the General Permit.

10. The permittee shall conduct semi-annual surface water sampling in April and October for total arsenic and dissolved arsenic at the seven locations shown on Attachment 1 and listed below and submit the results with the groundwater monitoring reports as required by Parts II.L.4.a(2) and III.C.

Waccamaw River Lower
Waccamaw River Upper
Waccamaw River Oxbow
Highway 501 Ditch
WR MW-5
WR MW-4R
WR MW-3R

APPENDIX A: Storm Water Pollution Prevention Plan (SWPPP) Requirements

You must prepare a SWPPP for your facility covered by this permit. The SWPPP must be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution that may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. The SWPPP is intended to document the selection, design, and installation of control measures. The facility must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit. If you prepared a SWPPP for coverage under a previous NPDES permit, you must review and update the SWPPP to implement all provisions of this permit. Consider using the Department's template on the following web page in preparing your SWPPP, with appropriate changes for this permit: <http://www.scdhec.gov/environment/water/swater/docs/npdes-ind-swppp.doc>.

I. Contents of Your SWPPP

- A. For coverage under this permit, your SWPPP must contain all of the following elements:
 - 1. Storm water pollution prevention team (see Section II);
 - 2. Site description (see Section III);
 - 3. Summary of potential pollutant sources (see Section IV);
 - 4. Description of control measures (see Section V);
 - 5. Schedules and procedures pertaining to control measures (see Section VI); and
 - 6. Signature requirements (see Section VII).
- B. Where your SWPPP refers to procedures in other facility documents, such as a Spill Prevention, Control, and Countermeasure (SPCC) Plan, a copy of the relevant portions of those documents must be kept with or within close proximity to your SWPPP.

II. Storm Water Pollution Prevention Team

You must identify the staff members (by name or title) that comprise the facility's storm water pollution prevention team as well as their individual responsibilities. Your storm water pollution prevention team is responsible for assisting the facility manager in developing and revising the facility's SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the storm water pollution prevention team must have ready access to either an electronic or paper copy of applicable portions of this permit and your SWPPP.

III. Site Description

Your SWPPP must include the following:

- A. *Activities at the Facility*. Provide a description of the nature of the industrial activities at your facility.
- B. *General location map*. Provide a general location map (e.g., U.S. Geological Survey (USGS) quadrangle map) with enough detail to identify the location of your facility and all receiving waters for your storm water discharges.
- C. *Site map*. Provide a map showing:
 - 1. The size of the property in acres;

2. The location and extent of significant structures and impervious surfaces;
3. Directions of storm water flow (use arrows);
4. Locations of all existing structural control measures;
5. Locations of all receiving waters in the immediate vicinity of your facility, indicating if any of the waters are impaired and, if so, whether the waters have TMDL established for them;
6. Locations of all storm water conveyances including ditches, pipes, and swales;
7. Locations of potential pollutant sources identified under Section IV.B;
8. Locations where significant spills or leaks identified under Section IV.C. have occurred;
9. Locations of all storm water monitoring points;
10. Locations of storm water inlets and outfalls, with a unique identification code for each outfall (e.g., Outfall No. 1, No. 2, etc), indicating if you are treating one or more outfalls as “substantially identical” (i.e., discharge substantially identical effluents) and an approximate outline of the areas draining to each outfall with an indication of the applicable Sector(s) for each outlined area;
11. Municipal separate storm sewer systems, where your storm water discharges to them;
12. Locations and descriptions of all non-storm water discharges;
13. Locations of the following activities where such activities are exposed to precipitation:
 - a. Fueling stations;
 - b. Vehicle and equipment maintenance and/or cleaning areas;
 - c. Loading/unloading areas;
 - d. Locations used for the treatment, storage, or disposal of wastes;
 - e. Liquid storage tanks;
 - f. Processing and storage areas;
 - g. Immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility;
 - h. Transfer areas for substances in bulk; and
 - i. Machinery; and
14. Locations and sources of run-on to your site that contains significant quantities of pollutants from adjacent property.

IV. Summary of Potential Pollutant Sources

You must document areas at your facility where industrial materials or activities are exposed to storm water. *Industrial materials or activities* include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products. *Material handling activities* include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each area identified, the description must include:

- A. *Activities in the area.* A list of the industrial activities exposed to storm water (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).
- B. *Pollutants.* A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list must include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to storm water in the 3 years prior to the date you prepare or amend your SWPPP.
- C. *Spills and Leaks.* You must document where potential spills and leaks could occur that could contribute pollutants to storm water discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You must document all significant spills and leaks of oil or toxic or hazardous pollutants that

actually occurred at exposed areas, or that drained to a storm water conveyance, in the 3 years prior to the date you prepare or amend your SWPPP.

Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Section 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances. Also, you must appropriately notify the Department's Emergency Response Section at 803/253-6488 or 888/481-0125.

D. *Salt Storage and Pavement De-icing.*

1. You must document the location of any storage piles containing salt used for de-icing or other commercial or industrial purposes and areas where de-icing is expected to occur.
2. *Pavement de-icing activities.* For any pavement de-icing activities at facilities, other than airports, covered under this permit, the SWPPP must include measures to assure that no SARA 313 chemical[s] is used for deicing and that no deicing occurs where spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed). Deicing is to be carried out only for safety purposes during inclement weather and must meet water quality standards and MS4 permit conditions (pertinent to the discharge).

- E. *Sampling Data.* You must summarize all storm water discharge sampling data collected at your facility during the previous permit term.

V. Description of Control Measures

Control Measures to Meet Technology-Based and Water Quality-Based Effluent Limits. You must select, design, install, and implement control measures (including best management practices [BMP]) to meet the non-numeric effluent limits in Section VI. The selection, design, installation, and implementation of these control measures must be in accordance with good engineering practices and manufacturer's specifications. Note that you may deviate from such manufacturer's specifications where you provide justification for such deviation and include documentation of your rationale in the part of your SWPPP that describes your control measures. If you find that your control measures are not achieving their intended effect of minimizing pollutant discharges, you must modify these control measures as expeditiously as practicable. Regulated storm water discharges from your facility include storm water run-on that commingles with storm water discharges associated with industrial activity at your facility.

You must document the location and type of control measures you have installed and implemented at your site. This documentation must describe how the control measures at your site address both the pollutant sources identified in Section IV, and any storm water run-on that commingles with any discharges covered under this permit. You must keep, operate, and maintain any permanent storm water detention or retention pond or other permanent storm water management device installed under the requirements of State or local regulatory authority, unless you receive a written waiver from the Department.

VI. Schedules and Procedures Pertaining to Control Measures

A. Control Measures

1. *Minimize Exposure.* You must minimize the exposure of manufacturing, processing, and material

storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, you should pay particular attention to the following:

- a. Use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;
 - b. Locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);
 - c. Clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;
 - d. Use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;
 - e. Use spill/overflow protection equipment;
 - f. Drain fluids from equipment and vehicles prior to on-site storage or disposal;
 - g. Perform all cleaning operations indoors, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
 - h. Ensure that all wash water drains to a proper collection system (i.e., not the storm water drainage system).
2. *Good Housekeeping.* You must keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers. A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers must be documented in your SWPPP.
3. *Maintenance.* You must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in storm water discharged to receiving waters. You must maintain in effective operating condition all control measures that are used to achieve the effluent limits required by this permit. Nonstructural control measures must also be diligently maintained (e.g., keeping spill response supplies available, training personnel appropriately). If you find that your control measures need to be replaced or repaired, you must make the necessary repairs or modifications as expeditiously as practicable. Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line must be documented in your SWPPP.
4. *Spill Prevention and Response Procedures.* You must minimize the potential for leaks, spills, and other releases that may be exposed to storm water and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:
- a. Procedures for plainly labeling containers (e.g., “used oil,” “spent solvents,” “fertilizers and pesticides,” etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;
 - b. Preventative measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;
 - c. Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures

- and have necessary spill response equipment available. If possible, one of these individuals should be a member of your storm water pollution prevention team (see Part 5.1.1); and
- d. Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. Where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you must notify the National Response Center (NRC) at (800) 424-8802 in accordance with the requirements of 40 CFR Part 110, 40 CFR Part 117, and 40 CFR Part 302 and the Department's Emergency Response Section at (803/253-6488 or 888-481-0125) as soon as you have knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

You must document in your SWPPP procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for Spill Prevention Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that you keep a copy of that other plan onsite and make it available for review.

5. *Erosion and Sediment Controls.* You must stabilize exposed areas and manage runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation and the resulting discharge of pollutants. Among other actions you must take to meet this limit, you must place flow velocity-dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with U.S. EPA's internet-based resources relating to BMP for erosion and sedimentation, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), in particular the Post-Construction link on this page, and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar State or Tribal publications.
6. *Management of Runoff.* You must divert, infiltrate, reuse, contain, or otherwise reduce storm water runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with EPA's internet-based resources relating to runoff management, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (<http://cfpub.epa.gov/npdes/stormwater/swsectors.cfm>), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), in particular the Post-Construction link on this page, and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar State or Tribal publications.
7. *Salt Storage and Pavement Deicing.*
 - a. *Salt Storage Piles or Piles Containing Salt.* You must enclose or cover storage piles of salt, or piles containing salt, used for de-icing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if storm water runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES permit.
 - b. *Pavement De-icing Activities.* For any pavement deicing activities at facilities, other than airports, covered under this permit, the SWPPP must include measures to assure that no SARA 313 chemicals are used for de-icing and that no de-icing occurs where spills or leaks of toxic or hazardous materials

have occurred (unless all spilled material has been removed). Deicing is to be carried out only for safety purposes during inclement weather and must meet water quality standards and meet MS4 permit conditions (pertinent to the discharge).

8. *Sector Specific Non-Numeric Effluent Limits.* You must achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Section X.
9. *Employee Training.* You must train all employees who work in areas where industrial materials or activities are exposed to storm water, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training must cover both the specific control measures used to achieve the effluent limits in this Part. The Department recommends that training be conducted at least annually (or more often if employee turnover is high). A schedule for all types of training necessary to implement specific control measures must be documented in your SWPPP.
10. *Waste, Garbage, and Floatable Debris.* You must ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.
11. *Dust Generation and Vehicle Tracking of Industrial Materials.* You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

B. Inspections

1. *Inspection Procedures.* Routine inspections (at least quarterly) should be conducted of all areas of the facility where industrial materials or activities are exposed to storm water and of all storm water control measures. These inspections should occur when the facility is in operation and must be performed by qualified personnel with at least one member of your storm water pollution prevention team participating. At least once each calendar year, the routine inspection should be conducted during a period when a storm water discharge is occurring. The requirement to conduct routine inspections does not apply to facilities where there are no industrial materials or activities exposed to storm water.
2. *Inspection Documentation.*
 - a. For each type of inspection performed, your SWPPP should identify: the person(s) or position(s) of person(s) responsible for inspection; schedules for conduction inspections; and specific items to be covered by the inspection.
 - b. The findings of each routine inspection should be documented and maintained onsite with your SWPPP. This documentation should include:
 - i. Inspection date and time;
 - ii. Name(s) and signature(s) of the inspector(s);
 - iii. Weather information and a description of any discharges occurring during the inspection;
 - iv. Any previously unidentified pollutants from the site;
 - v. Any control measures needing maintenance, repairs, or replacement;
 - vi. Any additional control measures needed.

C. Corrective Actions

1. *Conditions Requiring Review and Revision to Eliminate a Problem.* If any of the following conditions occur, you must review and revise the selection, design, installation, and implementation of your control measures to ensure that the condition is eliminated and will not be repeated in the future:

- a. An unauthorized release or discharge (e.g., spill, leak, or discharge of non-storm water not authorized by this or another NPDES permit);
 - b. A discharge violates a numeric effluent limit as a result of the storm water component of your discharge;
 - c. You become aware, or the Department notifies you, that your control measures are not stringent enough for the discharge to meet applicable water quality standards as a result of the storm water component of your discharge;
 - d. An inspection or evaluation of your facility by the Department, determines that modifications to the control measures are necessary to meet the effluent limits in this permit; or
 - e. You find in your routine inspection that your control measures are not being properly operated and maintained.
2. *Conditions Requiring Review to Determine if Modifications are Necessary.* If construction or a change in design, operation, or maintenance at your facility significantly changes the nature of pollutants discharged in storm water from your facility or significantly increases the quantity of pollutants discharged, then you must review the selection, design, installation, and implementation of your control measures to determine if modifications are necessary to meet effluent limits in this permit.
3. *Corrective Action Deadlines.* You must document your discovery of any of the conditions listed in Conditions VI.C.1 and VI.C.2 above within 24 hours of making the discovery. If there are extenuating circumstances that prevent documentation within the 24-hour time frame (such as occurrence over a weekend or holiday), then the documentation must occur by the end of the next business day after discovery. Subsequently, within 14 days of discovery, you must document any corrective action(s) to be taken to eliminate or further investigate the deficiency, or if no corrective action is needed, the basis for that determination. Specific documentation required is detailed in Condition VI.C.4 below. If you determine that changes are necessary following your review, any modifications to your control measures must be made before the next storm event, if possible, or as soon as practicable following that storm event.
4. *Corrective Action Documentation.*
- a. Within 24 hours of discovery (or by the end of the next business day (see Condition VI.C.3 above)) of any condition listed in Conditions VI.C.1 and VI.C.2 above, you must document the following information: identification of the condition triggering the need for corrective action review; description of the problem identified; and date the problem was identified.
 - b. Within 14 days of discovery of any condition listed in Conditions VI.C.1 and VI.C.2, you document the following information:
 - i. Summary of the corrective action taken or to be taken or the basis for why corrective action is not necessary.
 - ii. Notice of whether or not SWPPP modifications are required as a result of this discovery or corrective action;
 - iii. Date corrective action is initiated; and
 - iv. Date corrective action is completed or expected to be completed.

VII. Signature Requirements

You must sign and date your SWPPP in accordance with Part II.K (signatory requirements).

VIII. Required SWPPP Modifications

You must modify your SWPPP whenever there is construction or a change in design, operation, or maintenance at your facility that significantly changes the nature of pollutants discharged in storm water or significantly increases the quantity of pollutants discharged in storm water and which has not otherwise been addressed in the plan or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified in the plan or in otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity.

The Department may notify you at any time that the plan does not meet one or more of the minimum requirements of this Part. Within thirty (30) days of such notification from the Department, (or as otherwise provided by the Department), or authorized representative, the permittee shall make the required changes to the plan and shall submit to the Department a written certification that the requested changes have been made.

Changes to your SWPPP document must be signed and dated in accordance with Section VII above.

IX. SWPPP Availability

Your SWPPP must be completed within six (6) months of the effective date of this permit (and updated as appropriate). Plans shall provide for compliance with the terms of the plan within one (1) year of the effective date of the permit. You must retain a copy of the current SWPPP required by this permit at the facility, and it must be immediately available to the Department at the time of an onsite inspection or upon request. The Department may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within the Department or EPA.

X. Additional Documentation Requirements

You are required to maintain the following inspection, monitoring, and certification records and make them readily available to the Department:

- A. Descriptions and dates of any incidences of any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants to waters of the State through storm water; the circumstances leading to the release and actions taken in response to the release; and measures taken to prevent the recurrence of such releases;
- B. Records of employee training, including the date training is received, documentation of maintenance and repairs on control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance/repair schedules;
- C. All Routine Inspection Reports; and
- D. Description of any corrective action taken at your site, including triggering event and dates when problems were discovered and modifications occurred.

XI. Sector-Specific SWPPP Requirements and Control Measures

You must comply with sector-specific requirements associated with your primary industrial activity and any co-located industrial activities, as defined in Section XII. The sector-specific requirements apply to those areas of your facility where those sector-specific activities occur. These sector-specific requirements are in addition to any requirements specified elsewhere in this permit.

Sector O – Steam Electric Generating Facilities.

1. Covered Storm water Discharges.

The requirements in this section apply to storm water discharges associated with industrial activity from Steam Electric Power Generating Facilities as identified by the Activity Code specified under Sector O in Table XIII-1.

2. Industrial Activities Covered by Sector O.

This permit authorizes storm water discharges from the following industrial activities at Sector O facilities:

- a. Steam electric power generation using coal, natural gas, oil, nuclear energy, etc., to produce a steam source, including coal-handling areas;
- b. Coal pile runoff, including effluent limitations established by 40 CFR Part 423; and
- c. Dual fuel facilities that could employ a steam boiler.

3. Limitations on Coverage.

- a. *Prohibition of Storm Water Discharges.* Storm water discharges from the following are not covered by this section:
 - i. Ancillary facilities (e.g., fleet centers and substations) that are not contiguous to a steam electric power generating facility;
 - ii. Gas turbine facilities (providing the facility is not a dual-fuel facility that includes a steam boiler), and combined-cycle facilities where no supplemental fuel oil is burned (and the facility is not a dual-fuel facility that includes a steam boiler); and
 - iii. Cogeneration (combined heat and power) facilities utilizing a gas turbine.

4. Additional Technology-Based Effluent Limits.

The following good housekeeping measures are required in addition to Section VI.A.2:

- a. *Fugitive Dust Emissions.* Minimize fugitive dust emissions from coal handling areas. To minimize the tracking of coal dust offsite, consider procedures such as installing specially designed tires or washing vehicles in a designated area before they leave the site and controlling the wash water.
- b. *Delivery Vehicles.* Minimize contamination of storm water runoff from delivery vehicles arriving at the plant site. Consider procedures to inspect delivery vehicles arriving at the plant site and ensure overall integrity of the body or container and procedures to deal with leakage or spillage from vehicles or containers.
- c. *Fuel Oil Unloading Areas.* Minimize contamination of precipitation or surface runoff from fuel oil unloading areas. Consider using containment curbs in unloading areas, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and using spill and overflow protection devices (e.g., drip pans, drip diapers, or other containment devices placed beneath fuel oil connectors to contain potential spillage during deliveries or from leaks at the connectors).
- d. *Chemical Loading and Unloading.* Minimize contamination of precipitation or surface runoff from chemical loading and unloading areas. Consider using containment curbs at chemical loading and unloading areas to contain spills, having personnel familiar with spill prevention and response procedures present during deliveries to ensure that any leaks or spills are immediately contained and cleaned up, and loading and unloading in covered areas and storing chemicals indoors.
- e. *Miscellaneous Loading and Unloading Areas.* Minimize contamination of precipitation or surface runoff from loading and unloading areas. Consider covering the loading area; grading, berming, or curbing around the loading area to divert run-on; locating the loading and unloading equipment and vehicles so that leaks are contained in existing containment and flow diversion systems; or equivalent procedures.
- f. *Liquid Storage Tanks.* Minimize contamination of surface runoff from above-ground liquid storage tanks. Consider protective guards around tanks, containment curbs, spill and overflow protection, dry cleanup methods, or equivalent

measures.

- g. *Large Bulk Fuel Storage Tanks.* Minimize contamination of surface runoff from large bulk fuel storage tanks. Consider containment berms (or their equivalent). You must also comply with applicable State and Federal laws, including Spill Prevention, Control and Countermeasure (SPCC) Plan requirements.
- h. *Spill Reduction Measures.* Minimize the potential for an oil or chemical spill, or reference the appropriate part of your SPCC plan. Visually inspect as part of your routine facility inspection the structural integrity of all above-ground tanks, pipelines, pumps, and related equipment that may be exposed to storm water, and make any necessary repairs immediately.
- i. *Oil-Bearing Equipment in Switchyards.* Minimize contamination of surface runoff from oil-bearing equipment in switchyard areas. Consider using level grades and gravel surfaces to retard flows and limit the spread of spills, or collecting runoff in perimeter ditches.
- j. *Residue-Hauling Vehicles.* Inspect all residue-hauling vehicles for proper covering over the load, adequate gate sealing, and overall integrity of the container body. Repair vehicles without load covering or adequate gate sealing, or with leaking containers or beds.
- k. *Ash Loading Areas.* Reduce or control the tracking of ash and residue from ash loading areas. Clear the ash building floor and immediately adjacent roadways of spillage, debris, and excess water before departure of each loaded vehicle.
- l. *Areas Adjacent to Disposal Ponds or Landfills.* Minimize contamination of surface runoff from areas adjacent to disposal ponds or landfills. Reduce ash residue that may be tracked on to access roads traveled by residue handling vehicles, and reduce ash residue on exit roads leading into and out of residue handling areas.
- m. *Landfills, Scrap yards, Surface Impoundments, Open Dumps, General Refuse Sites.* Minimize the potential for contamination of runoff from these areas.

5. Additional SWPPP Requirements.

- a. *Drainage Area Site Map.* (See also Section III) Document in your SWPPP the locations of any of the following activities or sources that may be exposed to precipitation or surface runoff: storage tanks, scrap yards, and general refuse areas; short- and long-term storage of general materials (including but not limited to supplies, construction materials, paint equipment, oils, fuels, used and unused solvents, cleaning materials, paint, water treatment chemicals, fertilizer, and pesticides); landfills and construction sites; and stock pile areas (e.g., coal or limestone piles).
- b. *Documentation of Good Housekeeping Measures.* You must document in your SWPPP the good housekeeping measures implemented.

6. Additional Inspection Requirements.

Inspect the following areas monthly: coal handling areas, loading or unloading areas, switchyards, fueling areas, bulk storage areas, ash handling areas, areas adjacent to disposal ponds and landfills, maintenance areas, liquid storage tanks, and long term and short term material storage areas.

XII. Definitions, Abbreviations and Acronyms

A. Definitions (for the purposes of this section):

Action Area – all areas to be affected directly or indirectly by the storm water discharges, allowable non-storm water discharges, and storm water discharge-related activities, and not merely the immediate area involved in these discharges and activities.

Best Available Technology Economically Achievable (BAT) – Best Available Technology Economically Achievable (BAT) is defined at Section 304(b)(2) of the CWA. In general, Best Available Technology

Economically Achievable (BAT) represents the best available economically achievable performance of plants in the industrial subcategory or category. The factors considered in assessing BAT include the cost of achieving BAT effluent reductions, the age of equipment and facilities involved, the process employed, potential process changes, non-water quality environmental impacts, including energy requirements and other such factors as the EPA Administrator deems appropriate. EPA retains considerable discretion in assigning the weight according to these factors. BAT limitations may be based on effluent reductions attainable through changes in a facility's processes and operations. Where existing performance is uniformly inadequate, BAT may reflect a higher level of performance than is currently being achieved within a particular subcategory based on technology transferred from a different subcategory or category. BAT may be based upon process changes or internal controls, even when these technologies are not common industry practice.

Best Conventional Pollution Control Technology (BCT) – Best Conventional Pollutant Control Technology (BCT) is defined at Section 304(b)(4) of the CWA. The 1977 amendments to the CWA required EPA to identify effluent reduction levels for conventional pollutants associated with BCT for discharges from existing industrial point sources. In addition to the other factors specified in section 304(b)(4)(B), the CWA requires that EPA establish BCT limitations after consideration of a two part "cost-reasonableness" test. EPA explained its methodology for the development of BCT limitations in a Federal Register notice on July 9, 1986 (51 FR 24974).

Best Management Practices (BMP) – schedules of activities, practices (and prohibitions of practices), structures, vegetation, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMP also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. See S.C. R.61-9.122.2.

Best Practicable Control Technology Currently Available (BPT) – Best Practicable Control Technology Currently Available (BPT) is defined at Section 304(b)(1) of the [Clean Water Act \(CWA\)](#). EPA sets Best Practicable Control Technology Currently Available (BPT) effluent limitations for conventional, toxic, and non-conventional pollutants. Section 304(a)(4) designates the following as conventional pollutants: biochemical oxygen demand (BOD5), total suspended solids, fecal coliform, pH, and any additional pollutants defined by the Administrator as conventional. The Administrator designated oil and grease as an additional conventional pollutant on July 30, 1979 (see 44 FR 44501).

EPA has identified 65 pollutants and classes of pollutants as toxic pollutants, of which 126 specific substances have been designated priority toxic pollutants (see Appendix A to part 403, reprinted after 40 CFR 423.17). All other pollutants are considered to be non-conventional.

In specifying BPT, EPA looks at a number of factors. EPA first considers the total cost of applying the control technology in relation to the effluent reduction benefits. The Agency also considers the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and such other factors as the EPA Administrator deems appropriate. Traditionally, EPA establishes BPT effluent limitations based on the average of the best performance of facilities within the industry of various ages, sizes, processes or other common characteristics. Where existing performance is uniformly inadequate, BPT may reflect higher levels of control than currently in place in an industrial category if the Agency determines that the technology can be practically applied.

Co-located Industrial Activities – Any industrial activities, excluding your primary industrial activity,

located on-site that are defined by the storm water regulations at 122.26(b)(14)(i)-(ix) and (xi). An activity at a facility is not considered co-located if the activity, when considered separately, does not meet the description of a category of industrial activity covered by the storm water regulations or identified by the SIC code list in Appendix D.

Control Measure – refers to any BMP or other method (including effluent limitations) used to prevent or reduce the discharge of pollutants to waters of the United States.

The Department - the South Carolina Department of Health and Environmental Control.

Director – a Regional Administrator of the Environmental Protection Agency or an authorized representative. See 40 CFR 122.2.

Discharge – when used without qualification, means the "discharge of a pollutant." See S.C. R.61-9. 122.2.

Discharge of a Pollutant – any addition of any “pollutant” or combination of pollutants to waters of the State or “waters of the United States” from any “point source,” or any addition of any pollutant or combination of pollutants to the waters of the “contiguous zone” or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. See S.C. R.61-9. 122.2.

Discharge-related Activities – activities that cause, contribute to, or result in storm water and allowable non-storm water point source discharges, and measures such as the siting, construction, and operation of BMP to control, reduce, or prevent pollution in the discharges.

Drought-stricken area – a period of below average water content in streams, reservoirs, ground-water aquifers, lakes and soils.

EPA Approved or Established Total Maximum Daily Loads (TMDL) – “EPA Approved TMDL” are those that are developed by the Department and approved by EPA. “EPA Established TMDL” are those that are developed by EPA.

Existing Discharger – an operator applying for coverage under this permit for discharges authorized previously under an NPDES general or individual permit.

Facility or Activity – any NPDES “point source” (including land or appurtenances thereto) that is subject to regulation under the NPDES program. See S.C. R.61-9. 122.2.

Federal Facility – any buildings, installations, structures, land, public works, equipment, aircraft, vessels, and other vehicles and property, owned by, or constructed or manufactured for the purpose of leasing to, the federal government.

Impaired Water (or “Water Quality Impaired Water” or “Water Quality Limited Segment”) – A water is impaired for purposes of this permit if it has been identified by a State or EPA pursuant to Section 303(d) of

the Clean Water Act as not meeting applicable State water quality standards (these waters are called “water quality limited segments” under 40 CFR 30.2(j)). Impaired waters include both waters with approved or established TMDL, and those for which a TMDL has not yet been approved or established. Refer to the following website for more information on impaired waterbodies: <http://www.scdhec.gov/tmdl/>

Indian Country – (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States, whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a State, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe. (18 U.S.C. 1151)

Industrial Activity – the 10 categories of industrial activities included in the definition of “storm water discharges associated with industrial activity” as defined in S.C. R.61-9.122.26(b)(14)(i)-(ix) and (xi). NOTE: Storm water associated with construction activity, as defined at S.C. R.61-9.122.26(b)(14)(x) and (15), is not covered by this permit.

Industrial Storm Water – storm water runoff from industrial activity.

Minimize - reduce and/or eliminate to the extent achievable using control measures (including best management practices) that are technologically available and economically practicable and achievable in light of best industry practices.

Municipal Separate Storm Sewer – a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

- a. Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;
- b. Designed or used for collecting or conveying storm water;
- c. Which is not a combined sewer; and
- d. Which is not part of a Publicly Owned Treatment Works (POTW) as defined at S.C. R.61-9.122.2. See S.C. R.61-9.122.26(b)(4) and (b)(7).

Note: Additional information on the State's MS4 program, including a listing of small MS4s, may be found at <http://www.scdhec.gov/environment/water/swnsms4.htm>.

Natural Background Pollutant Levels – Concentrations or mass loadings of specific chemical parameters in storm water runoff that result from naturally occurring levels in soils, groundwater, or native biota.

Natural background pollutant levels do not include legacy pollutants from earlier activity on your site, or pollutants in run-on from neighboring sources that are not naturally occurring.

New Discharger – an operator applying for coverage under this permit for discharges not authorized previously under an NPDES general or individual permit.

New Source – any building, structure, facility, or installation from which there is or may be a “discharge of pollutants,” the construction of which commenced:

- a. after promulgation of standards of performance under section 306 of the CWA which are applicable to such source, or
- b. after proposal of standards of performance in accordance with section 306 of the CWA which are applicable to such source, but only if the standards are promulgated in accordance with section 306 within 120 days of their proposal. See S.C. R.61-9. 122.2.

New Source Performance Standards (NSPS) – technology-based standards for facilities that qualify as new sources under S.C. R.61-9.122.2 and 122.29.

No exposure – means all industrial materials or activities are protected by a storm-resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. See S.C. R.61-9. 122.26(g).

Operator – any entity with a storm water discharge associated with industrial activity that meets either of the following two criteria:

- a. The entity has operational control over industrial activities, including the ability to modify those activities; or
- b. The entity has day-to-day operational control of activities at a facility necessary to ensure compliance with the permit (e.g., the entity is authorized to direct workers at a facility to carry out activities required by the permit).

Person – an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof. See S.C. R.61-9. 122.2.

Point source – 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, landfill leachate collection system, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff. See S.C. R.61-9. 122.2.

Pollutant – dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act [42 U.S.C. 2011, et seq.]), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, and agricultural waste discharged into water. See S.C. R.61-9. 122.2.

Pollutant of concern – A pollutant that causes or contributes to a violation of a water quality standard,

including a pollutant which is identified as causing an impairment in a state's 303(d) list.

Primary industrial activity – includes any activities performed on-site which are (1) identified by the facility's primary SIC code; or (2) included in the narrative descriptions of 122.26(b)(14)(i), (iv), (v), or (vii), and (ix). [For co-located activities covered by multiple SIC codes, it is recommended that the primary industrial determination be based on the value of receipts or revenues or, if such information is not available for a particular facility, the number of employees or production rate for each process may be compared. The operation that generates the most revenue or employs the most personnel is the operation in which the facility is primarily engaged. In situations where the vast majority of on-site activity falls within one SIC code, that activity may be the primary industrial activity.] Narrative descriptions in S.C. R.61-9.122.26(b)(14) identified above include: (i) activities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards; (iv) hazardous waste treatment storage, or disposal facilities including those that are operating under interim status or a permit under subtitle C of the Resource Conservation and Recovery Act (RCRA); (v) landfills, land application sites and open dumps that receive or have received industrial wastes; (vii) steam electric power generating facilities; and (ix) sewage treatment works as defined at S.C. R.61-9.122.26(b)(14)(ix).

Qualified Personnel – personnel who possess the knowledge and skills to assess conditions and activities that could impact storm water quality at your facility, and who can also evaluate the effectiveness of control measures.

Reportable Quantity Release – a release of a hazardous substance at or above the established legal threshold that requires emergency notification. Refer to 40 CFR Parts 110, 117, and 302 for complete definitions and reportable quantities for which notification is required.

Runoff coefficient – the fraction of total rainfall that will appear at the conveyance as runoff. See S.C. R.61-9.122.26(b)(11).

Significant materials – includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges. See S.C. R.61-9.122.26(b)(12).

Special Aquatic Sites – sites identified in 40 CFR 230 Subpart E. These are geographic areas, large or small, possessing special ecological characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These areas are generally recognized as significantly influencing or positively contributing to the general overall environmental health or vitality of the entire ecosystem of a region.

Storm Water – storm water runoff, snowmelt runoff, and surface runoff and drainage. See S.C. R.61-9.122.26(b)(13).

Storm Water Discharges Associated with Construction Activity – a discharge of pollutants in storm water runoff from areas where soil disturbing activities (e.g., clearing, grading, or excavating), construction materials, or equipment storage or maintenance (e.g., fill piles, borrow areas, concrete truck washout,

fueling), or other industrial storm water directly related to the construction process (e.g., concrete or asphalt batch plants) are located. See S.C. R.61-9. 122.26(b)(14)(x) and (15).

Storm Water Discharges Associated with Industrial Activity – the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under Part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities include those that are federally, State, or municipally owned or operated that meet the description of the facilities listed in S.C. R.61-9. 122.26(b)(14). The term also includes those facilities designated under the provisions of S.C. R.61-9. 122.26(a)(1)(v).

Substantially Identical Outfalls - outfalls that have generally similar industrial activities, control measures, exposed materials that may significantly contribute pollutants to storm water, and runoff coefficients of their drainage areas.

Total Maximum Daily Load (TMDL) –a calculation of the maximum amount of a pollutant that a water body can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes wasteload allocations (WLA) for point source discharges; load allocations (LA) for nonpoint sources and/or natural background, and must include a margin of safety (MOS) and account for seasonal variations. (See section 303(d) of the Clean Water Act and 40 CFR 130.2 and 130.7).

Uncontaminated – means free from the presence of pollutants attributable to industrial activity.

Water Quality Impaired – See ‘Impaired Water’.

Water Quality Standards – definition of the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses. States and EPA adopt water quality standards to protect public health or welfare, enhance the quality of water and serve the purposes of the Clean Water Act (See CWA sections 101(a)2 and 303(c)) and the S.C. Pollution Control Act, S.C. Code 48-1-10, et seq. Water quality standards also include an anti-degradation policy.

Waters of the State - means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, canals, the Atlantic Ocean within the territorial limits of the

State, and all other bodies of surface or underground water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially within or bordering the State or within its jurisdiction.

“You” and “Your” – as used in this permit are intended to refer to the permittee, the operator, or the discharger as the context indicates and that party’s facility or responsibilities. The use of “you” and “your” refers to a particular facility and not to all facilities operated by a particular entity. For example, “you must submit” means the permittee must submit something for that particular facility. Likewise, “all your discharges” would refer only to discharges at that one facility.

B. Abbreviations and Acronyms

BAT – Best Available Technology Economically Achievable
BCT - Best Conventional Pollutant Control Technology
BOD₅ – Biochemical Oxygen Demand (5-day test)
BMP – Best Management Practice
BPT – Best Practicable Control Technology Currently Available
CERCLA – Comprehensive Environmental Response, Compensation and Liability Act
CGP – Construction General Permit
COD – Chemical Oxygen Demand
CWA – Clean Water Act (or the Federal Water Pollution Control Act, 33 U.S.C. §1251 *et seq*)
CWT – Centralized Waste Treatment
DMR – Discharge Monitoring Report
EPA – U. S. Environmental Protection Agency
ESA – Endangered Species Act
FWS – U. S. Fish and Wildlife Service
IGP - S.C. Industrial Storm Water General NPDES permit
LA – Load Allocations
MDMR – MSGP Discharge Monitoring Report
MGD – Million Gallons per Day
MOS – Margin of Safety
MS4 – Municipal Separate Storm Sewer System
MSDS – Material Safety Data Sheet
MSGP – Multi-Sector General Permit
NAICS – North American Industry Classification System
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NMFS – U. S. National Marine Fisheries Service
NOI – Notice of Intent
NOT – Notice of Termination
NPDES – National Pollutant Discharge Elimination System
NRC – National Response Center
NRHP – National Register of Historic Places
NSPS – New Source Performance Standard
NTU – Nephelometric Turbidity Unit
OMB – U. S. Office of Management and Budget
ORW – Outstanding Resource Water
ONRW - Outstanding National Resource Water

- OSM – U. S. Office of Surface Mining
- PCA – the South Carolina Pollution Control Act, S.C. Code 48-1-10, et. seq.
- POTW – Publicly Owned Treatment Works
- RCRA – Resource Conservation and Recovery Act
- RQ – Reportable Quantity
- SARA – Superfund Amendments and Reauthorization Act
- SHPO – State Historic Preservation Officer
- SIC – Standard Industrial Classification
- SMCRA – Surface Mining Control and Reclamation Act
- SPCC – Spill Prevention, Control, and Countermeasures
- SWPPP – Storm Water Pollution Prevention Plan
- THPO – Tribal Historic Preservation Officer
- TMDL – Total Maximum Daily Load
- TSDF – Treatment, Storage, or Disposal Facility
- TSS – Total Suspended Solids
- USGS – United States Geological Survey
- WLA – Wasteload Allocation
- WQS – Water Quality Standard

XIII. Facilities and Activities Covered

These sector descriptions are based on Standard Industrial Classification (SIC) Codes and Industrial Activity Codes. References to “sectors” in this permit (e.g., sector-specific monitoring requirements) refer to these groupings.

Table XIII-1. Sectors of Industrial Activity		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code ¹	Activity Represented
SECTOR A: TIMBER PRODUCTS		
A1	2421	General Sawmills and Planing Mills
A2	2491	Wood Preserving
A3	2411	Log Storage and Handling
A4	2426	Hardwood Dimension and Flooring Mills
	2429	Special Product Sawmills, Not Elsewhere Classified
	2431-2439 (except 2434)	Millwork, Veneer, Plywood, and Structural Wood (see Sector W)
	2448	Wood Pallets and Skids
	2449	Wood Containers, Not Elsewhere Classified
	2451, 2452	Wood Buildings and Mobile Homes
	2493	Reconstituted Wood Products
	2499	Wood Products, Not Elsewhere Classified
A5	2441	Nailed and Lock Corner Wood Boxes and Shook
SECTOR B: PAPER AND ALLIED PRODUCTS		
B1	2631	Paperboard Mills

Table XIII-1. Sectors of Industrial Activity		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
B2	2611	Pulp Mills
	2621	Paper Mills
	2652-2657	Paperboard Containers and Boxes
	2671-2679	Converted Paper and Paperboard Products, Except Containers and Boxes
SECTOR C: CHEMICALS AND ALLIED PRODUCTS		
C1	2873-2879	Agricultural Chemicals
C2	2812-2819	Industrial Inorganic Chemicals
C3	2841-2844	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations
C4	2821-2824	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic and Other Manmade Fibers Except Glass
C5	2833-2836	Medicinal Chemicals and Botanical Products; Pharmaceutical Preparations; in vitro and in vivo Diagnostic Substances; and Biological Products, Except Diagnostic Substances
	2851	Paints, Varnishes, Lacquers, Enamels, and Allied Products
	2861-2869	Industrial Organic Chemicals
	2891-2899	Miscellaneous Chemical Products
	3952 (limited to list of inks and paints)	Inks and Paints, Including China Painting Enamels, India Ink, Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints and Artist's Watercolors
	2911	Petroleum Refining
SECTOR D: ASPHALT PAVING AND ROOFING MATERIALS AND LUBRICANTS		
D1	2951, 2952	Asphalt Paving and Roofing Materials
D2	2992, 2999	Miscellaneous Products of Petroleum and Coal
SECTOR E: GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCTS		
E1	3251-3259	Structural Clay Products
	3261-3269	Pottery and Related Products
E2	3271-3275	Concrete, Gypsum, and Plaster Products
E3	3211	Flat Glass
	3221, 3229	Glass and Glassware, Pressed or Blown
	3231	Glass Products Made of Purchased Glass
	3241	Hydraulic Cement
	3281	Cut Stone and Stone Products
	3291-3299	Abrasive, Asbestos, and Miscellaneous Nonmetallic Mineral Products
SECTOR F: PRIMARY METALS		
F1	3312-3317	Steel Works, Blast Furnaces, and Rolling and Finishing Mills
F2	3321-3325	Iron and Steel Foundries
F3	3351-3357	Rolling, Drawing, and Extruding of Nonferrous Metals
F4	3363-3369	Nonferrous Foundries (Castings)
F5	3331-3339	Primary Smelting and Refining of Nonferrous Metals

Table XIII-1. Sectors of Industrial Activity		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code¹	Activity Represented
	3341	Secondary Smelting and Refining of Nonferrous Metals
	3398, 3399	Miscellaneous Primary Metal Products
SECTOR G: METAL MINING (ORE MINING AND DRESSING)		
G1	1021	Copper Ore and Mining Dressing Facilities
G2	1011	Iron Ores
	1021	Copper Ores
	1031	Lead and Zinc Ores
	1041, 1044	Gold and Silver Ores
	1061	Ferrous Alloy Ores, Except Vanadium
	1081	Metal Mining Services
	1094, 1099	Miscellaneous Metal Ores
SECTOR H: [Reserved.] COAL MINES AND COAL MINING-RELATED FACILITIES		
SECTOR I: [Reserved.] OIL AND GAS EXTRACTION AND REFINING		
SECTOR J: [Reserved.] MINERAL MINING AND DRESSING		
SECTOR K: HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES		
K1	HZ	Hazardous Waste Treatment, Storage, or Disposal Facilities, including those that are operating under interim status or a permit under subtitle C of RCRA
SECTOR L: LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS		
L1	LF	All Landfill, Land Application Sites and Open Dumps
L2	LF	All Landfill, Land Application Sites and Open Dumps, except Municipal Solid Waste Landfill (MSWLF) Areas Closed in Accordance with 40 CFR 258.60
SECTOR M: AUTOMOBILE SALVAGE YARDS		
M1	5015	Automobile Salvage Yards
SECTOR N: SCRAP RECYCLING FACILITIES		
N1	5093	Scrap Recycling and Waste Recycling Facilities except Source-Separated Recycling
N2	5093	Source-separated Recycling Facility
SECTOR O: STEAM ELECTRIC GENERATING FACILITIES		
O1	SE	Steam Electric Generating Facilities, including coal handling sites
SECTOR P: LAND TRANSPORTATION AND WAREHOUSING		
P1	4011, 4013	Railroad Transportation
	4111-4173	Local and Highway Passenger Transportation
	4212-4231	Motor Freight Transportation and Warehousing
	4311	United States Postal Service
	5171	Petroleum Bulk Stations and Terminals

Table XIII-1. Sectors of Industrial Activity		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code ¹	Activity Represented
SECTOR Q: WATER TRANSPORTATION		
Q1	4412-4499	Water Transportation Facilities
SECTOR R: SHIP AND BOAT BUILDING AND REPAIRING YARDS		
R1	3731, 3732	Ship and Boat Building or Repairing Yards
SECTOR S: AIR TRANSPORTATION FACILITIES		
S1	4512-4581	Air Transportation Facilities
SECTOR T: TREATMENT WORKS		
T1	TW	Treatment Works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA
SECTOR U: FOOD AND KINDRED PRODUCTS		
U1	2041-2048	Grain Mill Products
U2	2074-2079	Fats and Oils Products
U3	2011-2015	Meat Products
	2021-2026	Dairy Products
	2032-2038	Canned, Frozen, and Preserved Fruits, Vegetables, and Food Specialties
	2051-2053	Bakery Products
	2061-2068	Sugar and Confectionery Products
	2082-2087	Beverages
	2091-2099	Miscellaneous Food Preparations and Kindred Products
2111-2141	Tobacco Products	
SECTOR V: TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING; LEATHER AND LEATHER PRODUCTS		
V1	2211-2299	Textile Mill Products
	2311-2399	Apparel and Other Finished Products Made from Fabrics and Similar Materials
	3131-3199	Leather and Leather Products (note: see Sector Z1 for Leather Tanning and Finishing)
SECTOR W: FURNITURE AND FIXTURES		
W1	2434	Wood Kitchen Cabinets
	2511-2599	Furniture and Fixtures
SECTOR X: PRINTING AND PUBLISHING		
X1	2711-2796	Printing, Publishing, and Allied Industries

Table XIII-1. Sectors of Industrial Activity		
Subsector (May be subject to more than one sector/subsector)	SIC Code or Activity Code ¹	Activity Represented
SECTOR Y: RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISCELLANEOUS MANUFACTURING INDUSTRIES		
Y1	3011	Tires and Inner Tubes
	3021	Rubber and Plastics Footwear
	3052, 3053	Gaskets, Packing and Sealing Devices, and Rubber and Plastic Hoses and Belting
	3061, 3069	Fabricated Rubber Products, Not Elsewhere Classified
Y2	3081-3089	Miscellaneous Plastics Products
	3931	Musical Instruments
	3942-3949	Dolls, Toys, Games, and Sporting and Athletic Goods
	3951-3955 (except 3952 – see Sector C)	Pens, Pencils, and Other Artists' Materials
	3961, 3965	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal
	3991-3999	Miscellaneous Manufacturing Industries
SECTOR Z: LEATHER TANNING AND FINISHING		
Z1	3111 (also see sector V.)	Leather Tanning and Finishing
SECTOR AA: FABRICATED METAL PRODUCTS		
AA1	3411-3499 (except 3479)	Fabricated Metal Products, Except Machinery and Transportation Equipment, and Coating, Engraving, and Allied Services.
	3911-3915	Jewelry, Silverware, and Plated Ware
AA2	3479	Fabricated Metal Coating and Engraving
SECTOR AB: TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY		
AB1	3511-3599 (except 3571-3579)	Industrial and Commercial Machinery, Except Computer and Office Equipment (see Sector AC)
	3711-3799 (except 3731, 3732)	Transportation Equipment Except Ship and Boat Building and Repairing (see Sector R)
SECTOR AC: ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS		
AC1	3571-3579	Computer and Office Equipment
	3812-3873	Measuring, Analyzing, and Controlling Instruments; Photographic and Optical Goods, Watches, and Clocks
	3612-3699	Electronic and Electrical Equipment and Components, Except Computer Equipment
SECTOR AD: NON-CLASSIFIED FACILITIES		
AD1	Other storm water discharges designated by the Director as needing a permit (see 40 CFR 122.26(a)(9)(i)(C) & (D)) or any facility discharging storm water associated with industrial activity not described by any of Sectors A-AC. NOTE: Facilities may not elect to be covered under Sector AD. Only the Director may assign a facility to Sector AD.	

⁰¹ A complete list of SIC Codes can be found at: http://www.osha.gov/pls/imis/sic_manual.html

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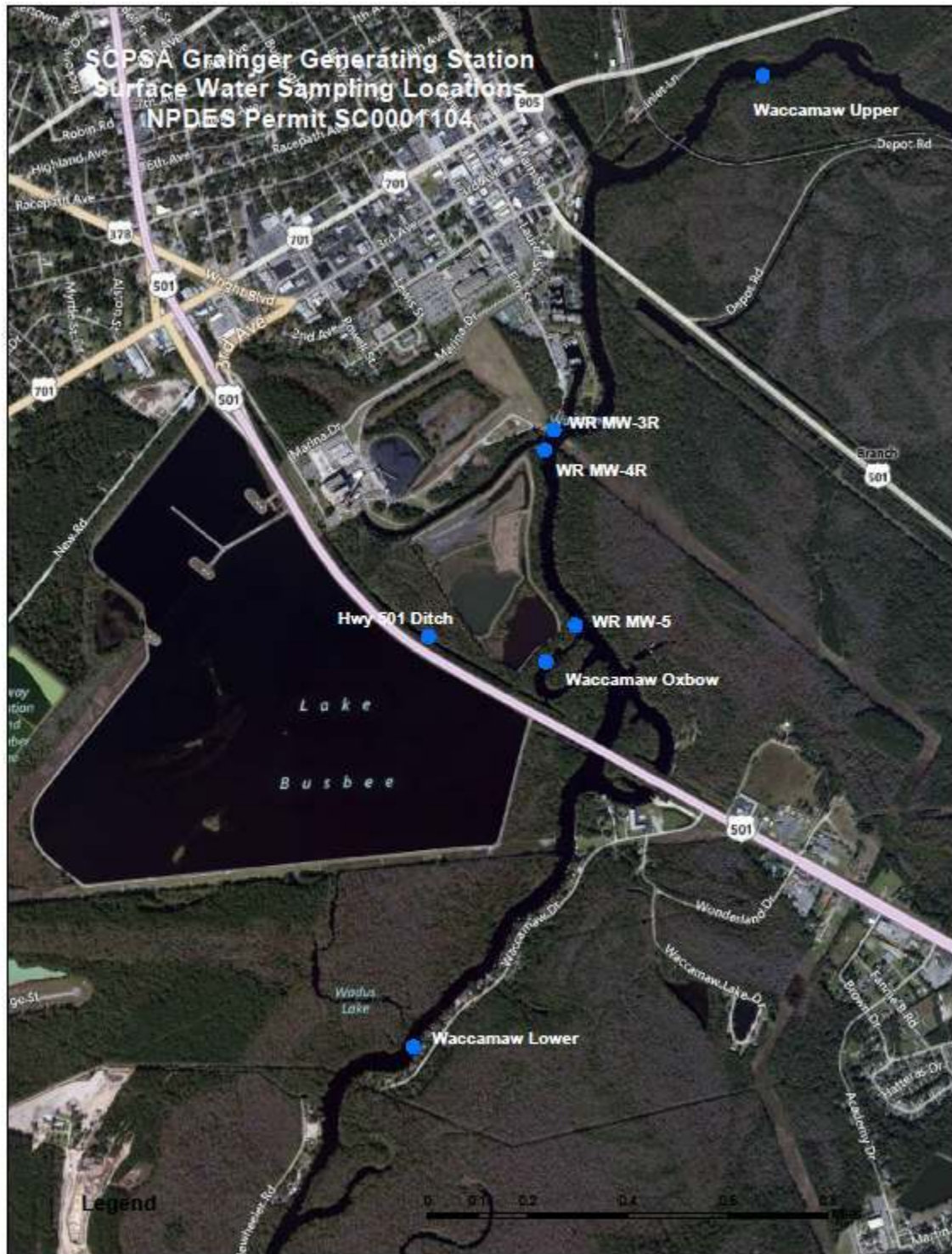
Appendix A
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Conversions to and from the newer North American Industry Classification System” (NAICS)) can be obtained from the Internet at: <http://www.census.gov/eos/www/naics/concordances/concordances.html> or in paper form from various locations in the document titled *Handbook of Standard Industrial Classifications*, Office of Management and Budget, 1987

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Attachment 1
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Attachment 1
Surface Water Sampling Locations
SCPSA – Grainger Generating Station
NPDES Permit SC0001104



**FACT SHEET
AND
PERMIT RATIONALE**

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**SCPSA - Grainger Generating Station
NPDES Permit No. SC0001104**

Permitting Engineer: Randy Thompson

August 28, 2013

Facility Rating: Major Minor

Issuance (New) Reissuance Modification Minor Modification

If any part of this application is for a new facility or expansion of an existing facility or increase in permitted limits, an antidegradation review may be required per the requirements of R.61-68.D. If required, the antidegradation review will be included as part of the permit application.

Site Address: Hwy 501 Bypass, Conway, SC 29526

County: Horry

Watershed: Basin 04 (Pee Dee Basin)

Facility Description (include SIC code): This facility includes a steam electric power plant that is no longer operating. SIC Code is 4911.

Receiving Waters and Classification by outfall: 001- Waccamaw River (FW*), 002- Wadus Lake to Waccamaw River (FW)

Is any discharge to Impaired Waters? Yes (see State 303(d) list for impaired waters)

If Yes, list the monitoring station number(s) and parameter(s) causing impairment: CSTL-556 and CSTL-555, Mercury in fish tissue

Is any discharge to a waterbody or for a parameter listed in an approved TMDL? Yes

If Yes, list the parameter(s) for which the TMDL is written and the waterbody segments impacted: Dissolved Oxygen on Waccamaw River and Intracoastal Waterway

Note: This discharge is in a section of the receiving water that could support both freshwater and saltwater organisms depending on salinity, tidal conditions or stream flow. For this reason, the most restrictive condition will be applied.

Does any discharge have the potential to affect a threatened or endangered species? No (endangered species information from SCDNR Heritage Trust, 2008)

If Yes, list the species and the waterbody in which the species resides: N/A

Outfalls are discussed in Section I of this rationale with a general description of the discharge, treatment system, stream flows and other pertinent information about each outfall.

EPA review of the draft permit is required if any box below is checked (Mark all that apply)

Permits with discharges which may affect the waters of another State (Coordination with the other State is also required)

List State and name of waterbody(ies) that reach affected state: N/A

Major permits

Permits with any discharge subject to any of the primary industrial categories (see R.61-9.122, Appendix A)

Permits with any discharge of process wastewater with an average flow exceeding 0.5 MGD

Permits which incorporate pollutant trading

- Priority permits
- Modification(s) to any permit listed above or a mod that changes a permit to put it into one of the above categories (where it previously was not)

List of Attachments to this Rationale:

Attachment 1	Permit Application
Attachment 2	Water Quality Spreadsheets
Attachment 3	Map of Drinking Water Intake/Source Water Protection Area Relative to Discharge

I. PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

Outfall 001

Description of outfall, receiving water and wastewater treatment system: This outfall receives coal pile runoff, other industrial stormwater runoff from the facility, and a small amount of intermittent runoff from service wash water. With the cessation of electric generating activities, ash sluice water and low volume wastewater, other than the runoff of service washwater, are no longer discharged to this outfall. Outfall 001 is treated in the ash ponds prior to discharge to the Waccamaw River.

Operator requirements: Based on the treatment system described above and the Pollution Control Act (PCA), the treatment system is classified as Group **I-P/C**. The Environmental Certification Board Rules require that a Grade **D-P/C** operator be assigned to operate this facility. The Department is granting an exception to the daily inspection requirement in accordance with R.61-9.122.41(e)(3)(ii)(D). Inspections of the facility will be required on a weekly basis. The permittee submitted information in an August 28, 2013 email that supports a weekly inspection requirement. Specifically, the ash pond operation level is maintained by mechanically pumping twice per month on average. At this operating level, the ash ponds have over twice the capacity available to contain a 10-year 24-hour storm event. In addition, a gravity discharge outfall exists that would prevent the ash pond from overflowing in the event of a large storm event. In the event of a 10-year 24-hour rainfall, an operator would be available to inspect the outfall structure for proper operation.

Information for this outfall is based on NPDES Permit Application: 2C dated June 12, 2013.

Data from Discharge Monitoring Reports (DMRs) and NPDES permit application (including all subsequent data presented) from 1/1/2010-3/31/2013 has been used to evaluate permit limitations.

Previous permit limits are based on the permit that became effective on 10/1/2002, and was modified on July 1, 2004 and March 8, 2005.

This outfall is outside a state-approved source water protection area (SWPA) for a surface water drinking water intake, but has the potential to affect the intake. The affected intake (Intake #S26101) is owned by Grand Strand Water and Sewer Authority (Myrtle Beach). The 7Q10 and AAF to be used for permitting MCL and water/organism criteria are given on the spreadsheet and are also protective of the other two intakes in the vicinity – #S26102 owned by Grand Strand Water and Sewer Authority (Bulls Creek), and #S22102 owned by Georgetown County Water and Sewer District. Additional information on source water protection is provided in sections III.B and G of this rationale.

All waterbody data is provided on the attached Water Quality Spreadsheets. This data includes 7Q10, annual average flow, dilution factors, hardness, TSS and other information as explained in this rationale. Additional information as necessary to explain the values used will be provided below.

Santee Cooper contracted with USGS to conduct a modeling study to determine the tidal dilution ratio on the Waccamaw River. In June 1996, the results of modeling work were submitted to DHEC. Based on the results of the report, the Department set a dilution factor of 12 for Outfall 001. The 7Q10 value in the spreadsheet is a calculated value that is equivalent to a dilution factor of 12 based on the previous flow of 2.24 MGD.

Flow

1. Previous permit limits:
 - Monthly average: Monitor and report results
 - Daily Maximum: Monitor and report results
 - Sampling Frequency: Daily
 - Sample Type: Flow Indicator
2. NPDES Application: (No. of flow analyses: Continuous)
 - Maximum Daily Value: 3.15 MGD
 - Maximum 30 Day Value: 1.63 MGD
 - Long Term Avg Value: 1.01 MGD
3. DMR Data: Since January 2010, the highest reported flow was 3.76 MGD reported in July 2011. However, since the electricity generating units were retired December 31, 2012, the highest reported flow was 1.31 MGD in January 2013.
4. Actual long term average flow (from DMR and/or application): Flow has been significantly reduced since January 2013. Average monthly flow has been less than 0.1 MGD. The Department will use an estimated average flow of 0.298 MGD for future conditions based on the permittee's estimate.
5. Additional Information: Because Santee Cooper permanently retired the electricity generation units at the facility effective December 31, 2012 and has not operated the units since August 2011, past flows are not indicative of future flows. Santee Cooper estimates that future average flow will be 0.298 MGD. This figure has been used in reasonable potential calculations and in calculating permit limitations.
6. Conclusion: Flow shall continue to be monitored daily.
 - Monthly average: Monitor and report results
 - Daily Maximum: Monitor and report results
 - Sampling Frequency: Daily
 - Sample Type: Flow Indicator

Total Suspended Solids (TSS)

1. Previous permit limits:
 - Monthly average: 30 mg/l
 - Daily Maximum: 100 mg/l
 - Sampling frequency: Twice per month
 - Sample Type: Grab
2. NPDES Application: (# of analyses: 22)
 - Maximum Daily Value: 26 mg/l (26.58 lb/d)
 - Maximum 30 Day Value: 24 mg/l
 - Long Term Avg Value: 17 mg/l
3. DMR Data: The highest TSS was reported in February 2012 as 26 mg/l.
4. Water Quality Data: NA
5. Effluent Limitation Guidelines: With the retirement of the generating units, the effluent limitation guidelines for the Steam Electric Power Generating Point Source Category do not apply.
6. Other information:
7. PQL: 1000 µg/l
8. Conclusion: Based on best professional judgment the limits shall remain as follows:
 - Monthly average: 30 mg/l
 - Daily Maximum: 100 mg/l
 - Sampling frequency: Twice per month
 - Sample Type: Grab

pH

1. Previous Permit Limits: 5.0 standard units to 8.5 standard units.
 - Sampling Frequency: Twice per month
 - Sample type: Grab

2. NPDES Application: (# of analyses: 31)
Maximum Daily Value: Min: 5.3 su, Max: 7.2 su
3. DMR Data: The highest pH was reported in October 2010 as 7.6 su and the lowest pH was reported in January 2013 as 5.3 su.
4. Water Quality Data: Water quality standards for pH are established in Reg. 61-68.G. For Class FW* – Fresh Water this value is 5.0 - 8.5 standard units.
5. Effluent limitation guidelines: With the retirement of the generating units, the effluent limitation guidelines for the Steam Electric Power Generating Point Source Category do not apply.
6. Other information:
7. PQL: Not applicable
8. Conclusion: The pH shall remain as the follows based on the water quality criteria:
Not less than 5.0 standard units nor greater than 8.5 standard units
Sampling Frequency: Twice per month
Sample type: Grab

Oil & Grease (O&G)

1. Previous permit limits:
Monthly average: 15 mg/l
Daily maximum: 20 mg/l
Sampling frequency: Twice per month
Sample type: Grab
2. NPDES Application: N/A
3. DMR Data: All results are zero.
4. Water Quality Data: Narrative water quality criteria for oil and grease is covered by Reg.61-68.E.5.
5. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: Based on O&G consistently not being present in the discharge, there is no reasonable potential.
6. Effluent limitations guidelines (ELGs): With the retirement of the generating units, the effluent limitation guidelines for the Steam Electric Power Generating Point Source Category do not apply.
7. Other Information:
8. PQL: 5 mg/l
9. Conclusion: Based on best professional judgment, the limit shall remain as follows:
Monthly average: 15 mg/l
Daily maximum: 20 mg/l
Sampling frequency: Twice per month
Sample type: Grab

Arsenic (As)

1. Previous permit limits:
Monthly average: Monitor and report results
Daily maximum: Monitor and report results
Sampling frequency: Twice per month
Sample type: 24 Hour Composite
2. NPDES Application: (# of analyses: 3)
Maximum Daily Value: 9 ug/l (<0.053 lb/d)
Maximum 30 Day Value: 7 ug/l
Long Term Avg Value: 6 ug/l
3. DMR Data: The highest value was reported in June 2010 as 0.032 mg/l.
4. Water Quality Data: see spreadsheet
5. Other Information:
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No. The reasonable potential calculation used a value of 1.75 ug/l of arsenic as the background level in the Waccamaw River. This is a calculated value based on the estimated groundwater volume that may be discharging to the river and the measured groundwater

arsenic concentrations. Recent surface water sampling performed by Santee Cooper in the Waccamaw River upstream of the Outfall 001 discharge consistently shows levels of arsenic below the laboratory quantitation limit (5.0 ug/l from September 2009 until July 2010, and 2.5 ug/l since October 2010). The Department quantitation limit (PQL) is 5.0 ug/l. The Department normally uses a value of zero when results are less than a quantitation limit equal to or less than the Department's quantitation limit. Even if a background level of 5.0 ug/l of arsenic in the Waccamaw River were used, there would be no reasonable potential.

The reasonable potential calculation uses an outfall discharge concentration of 0.029 mg/l as the monthly average and 0.032 as the daily maximum. The monthly average concentration would need to exceed 2.5 mg/l or the daily maximum concentration would need to exceed 4.8 mg/l for there to be reasonable potential.

7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: N/A
8. PQL: 5.0 ug/l
9. Conclusion: Due to there being no reasonable potential, coal ash sluice water no longer being discharged, and the reduction in discharge flow, no limits are necessary and monitor and report requirements would not normally be required. However, the permit will require the following monitor and report requirements so that ongoing data reflective of the retired status of the facility is available.
 - Monthly average: Monitor and report results, ug/l
 - Daily maximum: Monitor and report results, ug/l
 - Sampling frequency: Twice per month
 - Sample type: 24 Hour Composite

Mercury, Total

1. Previous permit limits: None
2. NPDES Application: (# of analyses: 1)
 - Maximum Daily Value: < 0.5 ng/l (< 5.32E-06 lb/d)
 - Maximum 30 Day Value: N/A
 - Long Term Avg Value: N/A
3. DMR Data: N/A
4. Water Quality Criterion: see spreadsheet
5. Effluent limitations guidelines (ELGs): not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
7. Other Information: Mercury is listed on the 303(d) of impaired waters due to a fish consumption advisory. Since the waterbody is impaired, we make the worst-case assumption that an addition to the water column levels may affect the methyl mercury accumulation in the fish, which may contribute to a water quality violation. As such, no credit for receiving stream dilution may be allowed (i.e. the 7Q10 and annual average flow at the discharge location will be set to zero for calculating limits).
8. PQL: 0.0005 µg/l
9. Conclusion: Because there is no reasonable potential, limits are not necessary. However, because the Waccamaw River is impaired for mercury in fish tissue, and because the discharge could at times include mercury from the coal pile runoff or from commingling with the coal ash in the coal ash basins, the permit will include the following monitor and report requirements.
 - Monthly average: Monitor and report results, ng/l
 - Daily maximum: Monitor and report results, ng/l
 - Sampling frequency: Once per year
 - Sample type: Grab

Nickel (Ni)

1. Previous permit limits: None
2. NPDES Application: (# of analyses: 1)
 - Maximum Daily Value: 159 ug/l (1.687 lb/d)
 - Maximum 30 Day Value: N/A
 - Long Term Avg Value: N/A

3. DMR Data: N/A
4. Water Quality Data: see spreadsheet
5. Other Information: The permittee submitted two additional analyses for nickel with results of 95.5 ug/l and 85 ug/l.
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: N/A
8. PQL: 10 ug/l
9. Conclusion: Based on the reasonable potential analysis, limits are not necessary.

Aluminum (Al)

1. Previous permit limits: none
2. NPDES Application: (# of analyses: 1)
 - Maximum Daily Value: 1.71 mg/l (18.14 lb/d)
 - Maximum 30 Day Value: N/A
 - Long Term Avg Value: N/A
3. DMR Data: N/A
4. Water Quality Data: see spreadsheet
5. Other Information: The permittee submitted an additional analysis for aluminum with a result of 0.839 mg/l.
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: N/A
8. PQL: 50 ug/l
9. Conclusion: Based on the reasonable potential analysis, limits are not necessary.

Whole Effluent Toxicity (WET)

1. Previous permit requirements:
 - Chronic whole effluent toxicity testing at a CTC = 15.8% using the dilution series 0% (control), 4%, 7.9%, 15.8%, 57.9%, and 100% effluent
 - Species: Ceriodaphnia dubia
 - Quarterly Average: 25 % effect (total, reproduction, & mortality)
 - Maximum: 40 % effect (total, reproduction, & mortality)
 - Sampling Frequency: 3/quarter
 - Sample Type: Grab
2. DMR Data: The highest quarterly average of 4 % effect and the highest maximum of 13 % effect were submitted in June 2011.
3. Mixing Zone and Zone of Initial Dilution (ZID) Information:

The stream at the point of discharge is 48.77 m wide (w in the equation below). The mixing zone and ZID dimensions are determined as follows using stream width:

Chronic mixing zone
Width: $\frac{1}{2} w = 24.38$ m
Length: $2w = 97.54$ m

Acute ZID
Width: $\frac{1}{10} w = 4.88$ m
Length: $\frac{1}{3} w = 16.26$ m

4. Reasonable potential evaluation: No reasonable potential. See Attachment 2 for a spreadsheet of data used.
5. Other information:

The permittee submitted the results of CORMIX modeling was performed for the July 2004 permit modification. The results of that modeling are provided below. At that time, the average discharge flow was 2.2 MGD, significantly less than the expected average flow of 0.298 MGD. Therefore, the test concentrations provided below are conservative considering the current discharge volume.

Acute: At the time of the July 2004 modification, acute testing was removed from the permit based on the following rationale. The previous 40 consecutive acute toxicity tests had passed at an acute test concentration of 100%. The CORMIX program had predicted the most restrictive Acute Test Concentration equal to 24%. Based on the previous acute tests, which passed at a much higher test concentration, it was determined that there was no reasonable potential for excursion of the narrative water quality standard of “no toxics in toxic amounts” from Regulation 61-68.

In addition, the mortality test results conducted as a part of the more recent chronic toxicity testing from January 2010 to January 2012 indicate that the mortality-based acute toxicity would not exhibit reasonable potential. The monthly chronic test results for mortality at 57.9% effluent (over twice the concentration of the Acute Test Concentration) showed that only two *Ceriodaphnia dubia* test organisms died – one in January 2011, and one in December 2011.

Because of the consistent lack of toxicity of the effluent with regard to mortality, limitations for acute toxicity testing are not needed.

Chronic: The Chronic Testing Concentration (CTC) of 15.8% was determined by CORMIX modeling which was considered at the time of the permit modification of July 2004. At that time, the Department set the boundaries of the chronic mixing zone to be one third the river width in width and two times the river width in length. The Department now sets the width of the chronic mixing zone to be one half the river width. The length of the chronic mixing zone has not changed. Because the Waccamaw River is tidally influenced in the vicinity of the facility causing periodic reversal of stream flow, the mixing zone length is evaluated half downstream and half upstream of the discharge location, just as it was for the July 2004 modification. Therefore, the length of the allowable mixing zone has not changed while the allowable width has increased from one-third to one-half the river width. However, because the length of the chronic mixing zone is the more restrictive boundary in the case of the CORMIX modeled plume of outfall 001 (i.e. plume concentrations are greater at the extent of the length of the mixing zone than the concentrations at the extent of the width), the CTC will remain at 15.8%.

6. Conclusion: The following permit requirements are based on an evaluation of the treatment provided, the variability of pollutants in the discharge, the nature and characteristics of the discharge, and the available dilution in accordance with R.61-9.122.44(d)(1). Based on the reasonable potential analysis, limits for WET are not required. However, the permit will require the following monitor and report requirements so that data reflective of the retired status of the facility is available.

Testing using multiple dilutions will be required. A geometric series is used to determine the dilution series as follows:

To determine a geometric series of effluent concentrations given a low concentration L , a high concentration H , and n concentrations, the concentration factor is $F = \left(\frac{H}{L}\right)^{\frac{1}{n-1}}$ and the i th concentration is $C_i = L * F^{i-1}$.

Therefore, for
 $n = 5$
 $L = 4\%$
 $H = 100\%$

The dilution series is as follows (minimum of 5 dilutions and a control): 0% (control), 4%, 8.9%, 15.8%, 44.7%, and 100% effluent.

Monthly Average*: Monitor and Report

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Daily Maximum: Monitor and Report
Chronic Testing Concentration (CTC) = 15.8%
Species: Ceriodaphnia dubia
Testing series: 0% (control), 4%, 8.9%, 15.8%, 44.7%, and 100% effluent
Sampling Frequency: 1/year
Sample Type: 24 hour composite

* Please note that monthly average is being used per the requirements of R.61-9.122.45.d. This may be different than was included in previous permits issued to this facility.

Other Parameters

Other parameters do not exhibit reasonable potential. A Total Maximum Daily Load (TMDL) for dissolved oxygen was approved on 7/27/1999 for the Waccamaw River and the Atlantic Intracoastal Waterway. Outfall 001 does not discharge significant quantities of oxygen depleting pollutants.

Outfall 002

Description of outfall, receiving water and wastewater treatment system: Outfall 002 primarily consists of water added to the 300 acre cooling pond to maintain the volume and prevent it becoming stagnant. The water is withdrawn from the Waccamaw River and passes through a portion of the condenser. The outfall also consists of a relatively small amount of non-contact cooling water from the office heating and air conditioner system. The discharge is to Wadus Lake which is a tributary to the Waccamaw River.

Operator requirements: Based on the treatment system described above and the Pollution Control Act (PCA), the treatment system is classified as Group I-P/C. The Environmental Certification Board Rules require that a Grade D-P/C operator be assigned to operate this facility. The Department is granting an exception to the daily inspection requirement in accordance with R.61-9.122.41(e)(3)(ii)(D). Inspections of the facility will be required on a weekly basis. Because electricity generation activities have ceased, and the discharge is primarily comprised of water pumped from the Waccamaw River to prevent the cooling pond from becoming stagnant, weekly inspections are sufficient

Information for this outfall is based on NPDES Permit Application: 2E dated 4/3/2013.

Data from Discharge Monitoring Reports (DMRs) and NPDES permit application (including all subsequent data presented) from 1/1/2010-3/31/2013 has been used to evaluate permit limitations.

Previous permit limits are based on the permit that became effective on 10/1/2002, and was modified on July 1, 2004 and March 8, 2005.

This outfall is outside a state-approved source water protection area (SWPA) for a surface water drinking water intake, but has the potential to affect the intake. The affected intake (Intake #S26101) is owned by Grand Strand Water and Sewer Authority. The 7Q10 and AAF to be used for permitting MCL and water/organism criteria are given on the spreadsheet. Additional information on source water protection is provided in sections III.B and G of this rationale.

All waterbody data is provided on the attached Water Quality Spreadsheets. This data includes 7Q10, annual average flow, dilution factors, hardness, TSS and other information as explained in this rationale. Additional information as necessary to explain the values used will be provided below.

Flow

1. Previous permit limits:

Monthly average: Monitor and report results

- Instantaneous Maximum: Monitor and report results
Sampling Frequency: Continuous
Sample Type: Recorder or Pump Logs
2. NPDES Application: (No. of flow analyses: Continuous)
Maximum Daily Value: 41.8 MGD
Long Term Avg Value: 28.52 MGD
 3. DMR Data: Since January 2010, the highest reported flow was 125.4 MGD last reported in August 2011. However, since the electricity generating units were retired December 31, 2012, the highest reported flow was 4.32 MGD last reported in March 2013.
 4. Actual long term average flow (from DMR and/or application): Flow has been significantly reduced since January 2013 to an average monthly flow 4.32 MGD. The Department will use an estimated average flow of 38.65 MGD for future conditions based on the permittee's estimate.
 5. Additional Information: Santee Cooper permanently retired the electricity generation units at the facility effective December 31, 2012, and Santee Cooper estimates that future average flow will be 38.65 MGD. This figure has been used in reasonable potential calculations and in calculating permit limitations.
 6. Conclusion:
Monthly average: Monitor and report results
Instantaneous Maximum: Monitor and report results
Sampling Frequency: Continuous
Sample Type: Recorder or Pump Logs

pH

1. Previous Permit Limits: none
2. NPDES Application: (# of analyses: 1)
Maximum Daily Value: Min: 7.4
3. DMR Data: N/A
4. Water Quality Data: Water quality standards for pH are established in Reg. 61-68.G. For Class FW – Fresh Water this value is 6.0 - 8.5 standard units.
5. Effluent limitation guideline: Because the discharges from this outfall do not result from the operation of a unit to generate electricity, the effluent limitation guideline is not applicable.
6. Other information: Because the discharge from the cooling pond is to Wadus Lake, the site specific pH water quality criterion of 5.0 to 8.5 s.u. for the Waccamaw River does not apply.
7. PQL: Not applicable
8. Conclusion: The pH shall be limited to the following based on water quality:
Not less than 6.0 standard units nor greater than 8.5 standard units
Sampling Frequency: 1/month
Sample type: Grab

Interim limits have been included to allow the facility 26 months to come into compliance with the new pH limits. Monitor and report will be required until the new limits come into effect.

Temperature

1. Previous Permit Limits:
Discharge Temperature
Monthly Average: Monitor and report results
Instantaneous Maximum: 98° F (June – September)
Instantaneous Maximum: 95° F (October – May)
Sample Frequency: Continuous
Sample Type: Recorder

Intake Temperature

- Monthly Average: Monitor and report results
Instantaneous Maximum: Monitor and report results
Sampling Frequency: Continuous
Sample Type: Recorder
2. NPDES Application: (No. of analyses: Continuous)
Summer: Average 84° F
Maximum: 93° F
Winter: Average: 61° F
Maximum: 87° F
 3. DMR Data: The highest temperature was reported in August 2010 as 97° F.
 4. Water Quality Data: Per Reg. 61-68.E.12.a, The water temperature of all Freshwaters which are free flowing shall not be increased more than 5°F (2.8°C) above natural temperature conditions and shall not exceed a maximum of 90°F (32.2°C) as a result of the discharge of heated liquids unless a different temperature standard as provided for in C.12 has been established, a mixing zone as provided in C.10 has been established, or a Section 316(a) determination under the Federal Clean Water Act has been completed.
 5. Effluent limitation guidelines: not applicable
 6. Other information: The previous permit limits were based on a 316(a) variance. Information to support continuing the 316(a) variance was not submitted.
 7. PQL: Not applicable
 8. Conclusion: Because the “discharge of heated liquids” as referenced in R.61-68.E.12.a above effectively ceased when Santee Cooper discontinued electricity generation activities at the facility, there is no reasonable potential for the discharge to cause an excursion of the water quality criteria for temperature. Therefore, temperature limits will not be included in the permit.

Total Residual Chlorine, TRC

1. Previous permit limits:
Monthly average: 0.011 mg/l
Daily maximum: 0.019 mg/l
Sampling frequency: 1/Week
Sample type: Multiple Grabs
2. NPDES Application: (# of analyses: 52)
Maximum Daily Value: 0.05 mg/l (1.80 lb/d)
3. DMR Data: The highest value was reported in May 2011 as 0.001 mg/l.
4. Water Quality Data: see spreadsheet
5. Other Information:
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs):
Because the discharges from this outfall do not result from the operation of a unit to generate electricity, the effluent limitation guideline is not applicable.
8. PQL: 0.05 mg/l
9. Conclusion: Based on the reasonable potential analysis, TRC limits are not required.

Free Available Chlorine, FAC

1. Previous permit limits: none
2. NPDES Application: N/A
3. DMR Data: N/A
4. Water Quality Data: N/A, see TRC
5. Other Information:
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: See reasonable potential analysis for TRC. FAC is a component of TRC.
7. Effluent limitations guidelines (ELGs):

Because the discharges from this outfall do not result from the operation of a unit to generate electricity, the effluent limitation guideline is not applicable.

8. Conclusion: Water quality based limits are considered for TRC (and determined to not be necessary). Therefore, FAC limits are not necessary.

Copper, Cu

1. Previous permit limits:
 - Monthly average: Monitor and Report results
 - Daily maximum: Monitor and Report results
 - Sampling frequency: 1/Month
 - Sample type: 24 hour composite
2. NPDES Application: N/A
3. DMR Data: The highest value was reported in August 2012 as 0.04 mg/l.
4. Water Quality Data: see spreadsheet
5. Other Information:
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: Yes.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: N/A
8. PQL: 0.010 mg/l
9. Conclusion: Based on the reasonable potential analysis, the limits shall be as follows:
 - Monthly average: 3.7 ug/l
 - Daily maximum: 5.8 ug/l
 - Sampling Frequency: 1/month
 - Sample type: 24 hour composite

Because the permit limits are less than the PQL of 0.010 mg/l, compliance will be based on the PQL. The PQL will also serve as a reporting threshold. Values below the PQL shall be reported as "0" (zero). Interim limits have been included to allow the facility 26 months to come into compliance with the new copper limits. Monitor and report requirements will be in place in the interim.

Other Parameters

Other parameters do not exhibit reasonable potential. A Total Maximum Daily Load (TMDL) for dissolved oxygen was approved on 7/27/1999 for the Waccamaw River and the Atlantic Intracoastal Waterway. Outfall 002 does not discharge significant quantities of oxygen depleting pollutants.

Groundwater Monitoring Requirements

Based on a **May 16, 2013** memorandum from the Groundwater Protection Section, the Permittee shall monitor and report each of the ten (GGSWM-1 through 6 and 9 through 12) groundwater monitoring wells semiannually for the following parameters:

Arsenic, total	Arsenic, dissolved
Barium, total	Cadmium, total
Chromium, total	Copper, total
Iron, total	Lead, total
Selenium, total	Sulfate
Zinc, total	Oxidation Reduction Potential
Total Dissolved Solids	Depth to Water, tenth/feet
Field pH	Turbidity
Thallium, total	Temperature
Total Suspended Solids	Groundwater Elevation
Field Specific Conductance	Chloride

Sampling shall be in April and October of each year.

Groundwater monitoring in the permit is needed to continue to track pollutant concentrations in the groundwater from the wastewater treatment units. Under a separate process, DHEC is reviewing a closure plan for the ash ponds. Closure plan approval will be combined with DHEC's current remedial investigation work to make long-term decisions about groundwater contamination. The monitoring in this permit is a bridge to the long-term closure decision.

Surface Water Sampling Requirements

The permittee shall conduct surface water sampling for total arsenic and dissolved arsenic on a semi-annual basis in April and October at the following locations:

Waccamaw River Lower
Waccamaw Oxbow
WR MW-5
WR MW-3R

Waccamaw River Upper
Highway 501 Ditch
WR MW-4R

Threatened and Endangered Species Information

There are no known threatened or endangered species that would be expected to be adversely impacted by the discharge from this facility.

Cooling Water Intake Requirements

The 316(b) cooling water intake requirements no longer apply to the facility because the generating units no longer operate.

II. GENERAL INFORMATION

- A. The effluent from this facility may be subject to the requirements of any of the following regulations: R.61-9.125, 129, 133, and 403; 40 CFR Part 136; Subchapter N (40 CFR Parts 400 through 402 and 404 through 471); R.61-9.503, R.61-9.504 and R.61-9.505.
- B. Authority: This permit is written in accordance with applicable laws and regulations including, but not limited to, Regulation 61-9, Regulation 61-68, Pollution Control Act and Clean Water Act.
- C. Under R.61-9.124.8 (Fact Sheet), a fact sheet shall be prepared for every draft permit for a major NPDES facility or activity, for every Class I sludge management facility, for every NPDES draft permit that incorporates a variance or requires an explanation under section 124.56(b), and for every draft permit which the Department finds is the subject of wide-spread public interest or raises major issues. The Rationale will be included as an attachment to the Fact Sheet prepared under this regulation.
- D. The conclusions noted in the Rationale establish proposed effluent limitations and permit requirements addressed in R.61-9.122.43 (Establishing Permit Conditions), R.61-9.122.44 (Establishing Limitations, Standards and other permit conditions) and other appropriate sections of R.61-9.

III. BACKGROUND AND PROCEDURES FOR PERMIT LIMIT DEVELOPMENT

- A. The receiving waterbody 7Q10, annual average flow or other critical flow condition at the discharge point, and 7Q10, annual average flow, or other critical flow condition for source water protection are determined by the SCDHEC's Wasteload Allocation Section. The 7Q10, Annual Average Flow or other critical flow conditions are based on information published or verified by the USGS, an estimate extrapolation from published or verified USGS data or from data provided by the permittee. These flows may be adjusted by the Wasteload Allocation Section to account for existing water withdrawals that impact the flow. The 7Q10 (or 30Q5 if provided by the

applicant), annual average flow at the discharge point, or other critical flow condition or 7Q10 (or 30Q5 if provided by the applicant), annual average flow or other critical flow condition for source water protection for a proposed or existing surface water drinking water intake will be used to determine dilution factors, as appropriate, in accordance with R.61-68.C.4.a & 4.b for aquatic life, human health, and organoleptic effects respectively.

- B. Water and organism consumption and drinking water MCL criteria will be evaluated for protection of human health when calculating dilution factors. “The Department may, after Notice of Intent included in a notice of a proposed NPDES permit in accordance with Regulation 61-9.124.10, determine that drinking water MCLs or W/O shall not apply to discharges to those waterbodies where there is: no potential to affect an existing or proposed drinking water source and no state-approved source water protection area.” For permitting purposes, “a proposed drinking water source is one for which a complete permit application, including plans and specifications for the intake, is on file with the Department at the time of consideration of an NPDES permit application for a discharge that will affect or has the potential to affect the drinking water source” (R.61-68.E.14.c(5)).

The Department will implement this protection in NPDES permits using the source water protection program already developed for the drinking water program. A source water protection program was developed originally in 1999 to define the source water protection areas for each drinking water intake. The program was designed to identify source water protection areas (SWPAs) to aid drinking water systems in identifying sources of potential contamination that could affect their intakes. In September 2009, this program was modified to redefine the SWPAs as smaller, more manageable areas. The revised document developed in September 2009 is entitled “South Carolina Drinking Water Source Assessment and Protection Program.” For the purposes of NPDES permitting, the SWPA referred to in Regulation 61-68.E.14.c(5) is the Primary Protection Area defined in the revised assessment and protection document. More information regarding the use of these protection areas is provided later in this rationale with the discussion of the procedure for establishing permit limits in Section G.2.

- C. Application of numeric criteria to protect human health: If separate numeric criteria are given for organism consumption, water and organism consumption (W/O), and drinking water Maximum Contaminant Levels (MCLs), they shall be applied as appropriate. The most stringent of the criteria shall be applied to protect the existing and classified uses of the waters of the State. See R.61-68.E.14.b(1).
- D. Numeric criteria have been established in R.61-68 based on organoleptic data (prevention of undesirable taste and odor). For those substances which have aquatic life and/or human health numeric criteria and organoleptic numeric criteria, the most stringent of the three shall be used for derivation of permit effluent limitations. See R.61-68.E.13.
- E. Sampling Frequency: Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit (R.61-9.122.41). Typically requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge but in no case less than once a year (R.61-9.122.44)
- F. Compliance Schedules:
1. A person issued an NPDES permit by the Department who is not in compliance with applicable effluent standards and limitations or other requirements contained therein at the time the permit is issued, shall be required to achieve compliance within a period of time as set forth by the Department, with effluent standards and limitations, with water quality standards, or with specific requirements or conditions set by the Department. The Department shall require compliance with terms and conditions of the permit in the shortest reasonable period of time as determined thereby or within a time schedule for compliance which shall be specified in the issued permit.
 2. If a time schedule for compliance specified in an NPDES permit which is established by the Department, exceeds nine (9) months, the time schedule shall provide for interim dates of achievement for compliance with certain applicable terms and conditions of the permit. (R.61-9.122.47)

G. Procedure for establishing effluent limitations:

1. Effluent limits (mass and concentration) for Five day Biochemical Oxygen Demand (BOD₅), Ultimate Oxygen Demand (UOD), Dissolved Oxygen (DO), Total Ammonia Nitrogen (as N), and Nutrients are established by the Wasteload Allocation (WLA) Section, with consideration given to technology-based limitations.

- a. Five day Biochemical Oxygen Demand BOD₅, Ultimate Oxygen Demand (UOD), Dissolved Oxygen (DO):

Effluent limits for conventional oxygen demanding constituents (BOD₅, UOD and DO) are established to protect in-stream water quality and uses, while utilizing a portion of the assimilative capacity of the receiving water. The ability of a water body to assimilate oxygen-demanding substances is a function of its physical and chemical characteristics above and below the discharge point. Various mathematical techniques, called models, have been developed to estimate this capacity. The Department follows the procedures as outlined in the "State/EPA Region IV Agreement on the Development of Wasteload Allocations/Total Maximum Daily Loads and NPDES Permit Limitations" dated October 30, 1991 (as updated) for determining the assimilative capacity of a given water body. Mathematical models such as QUAL2E and QUAL2E-UNCAS are used in accordance with "Enhanced Stream Water Quality Models QUAL2E and QUAL2E-UNCAS: Documentation and Users Manual" (EPA/600/3-87/007; dated May 1987) as updated. BOD₅ and UOD values determined from modeling results will be used in permitting as monthly average derived limits (C_{wla}). Daily maximum derived limits will be determined by multiplying the monthly average value by two.

For facilities subject to effluent guidelines limitations or other technology-based limitations, BOD₅ will also be evaluated in accordance with the applicable industrial categorical guidelines. These parameters will be identified in Part III of this rationale when they are applicable to the permit.

- b. Total Ammonia Nitrogen (as N):

Ammonia limitations based on oxygen demand will be determined from modeling information as described above. These values will be used as monthly average derived limits and a daily maximum will be determined by multiplying the monthly average derived limit by two. These values will be compared with the ammonia water quality criteria for protection of aquatic life from Regulation 61-68 and any categorical limitations. The more stringent of the limitations will be imposed. Calculations for aquatic life criteria and other wasteload recommendations will be shown in Part I of this rationale when ammonia is a pollutant of concern.

- c. Discharges of Nutrients:

In order to protect and maintain lakes and other waters of the State, consideration is given to the control of nutrients reaching the waters of the State. Therefore, in accordance with regulation R.61-68.E.11, the Department controls the nutrients as prescribed below. Nutrient limitations will be determined from the best available information and/or modeling performed by the Wasteload Allocation Section to meet these water quality standards.

- i. Discharges of nutrients from all sources, including point and nonpoint, to waters of the State shall be prohibited or limited if the discharge would result in or if the waters experience growths of microscopic or macroscopic vegetation such that the water quality standards would be violated or the existing or classified uses of the waters would be impaired. Loading of nutrients shall be addressed on an individual basis as necessary to ensure compliance with the narrative and numeric criteria.

- ii. Numeric nutrient criteria for lakes are based on an ecoregional approach which takes into account the geographic location of the lakes within the State and are listed below. These numeric criteria are applicable to lakes of 40 acres or more. Lakes of less than 40 acres will continue to be protected by the narrative criteria.
 - 1. for the Blue Ridge Mountains ecoregion of the State, total phosphorus shall not exceed 0.02 mg/l, chlorophyll *a* shall not exceed 10 ug/l, and total nitrogen shall not exceed 0.35 mg/l
 - 2. for the Piedmont and Southeastern Plains ecoregions of the State, total phosphorus shall not exceed 0.06 mg/l, chlorophyll *a* shall not exceed 40 ug/l, and total nitrogen shall not exceed 1.50 mg/l
 - 3. for the Middle Atlantic Coastal Plains ecoregion of the State, total phosphorus shall not exceed 0.09 mg/l, chlorophyll *a* shall not exceed 40 ug/l, and total nitrogen shall not exceed 1.50 mg/l.
 - iii. In evaluating the effects of nutrients upon the quality of lakes and other waters of the State, the Department may consider, but not be limited to, such factors as the hydrology and morphometry of the waterbody, the existing and projected trophic state, characteristics of the loadings, and other control mechanisms in order to protect the existing and classified uses of the waters.
 - iv. The Department shall take appropriate action, to include, but not limited to: establishing numeric effluent limitations in permits, establishing Total Maximum Daily Loads, establishing waste load allocations, and establishing load allocations for nutrients to ensure that the lakes attain and maintain the above narrative and numeric criteria and other applicable water quality standards.
 - v. The criteria specific to lakes shall be applicable to all portions of the lake. For this purpose, the Department shall define the applicable area to be that area covered when measured at full pool elevation.
2. Effluent concentration limits (C_{efflim}) for parameters other than the parameters listed in G.1.a-c above are established using the following procedures:

Q_{7Q10}	7Q10 or other critical flow condition of the receiving water at the discharge point in mgd. (may require adjustment for withdrawals)
AAF_d	Average Annual Flow (AAF) or other critical flow condition of the receiving water at the discharge point in mgd. (may require adjustment for withdrawals)
Q_{7Q10i}	7Q10 or other critical flow condition of the receiving water at the SWP Area boundary in mgd.
AAF_i	Average Annual Flow (AAF) or other critical flow condition of the receiving water at the SWP Area boundary in mgd.
Q_d	Long term average discharge flow in mgd.

- a. Determine dilution factors, where not provided by modeling:
The following information is to be used (where applicable) for establishing effluent concentration limits:
 - DF_1 : This dilution factor is based on 7Q10 or other critical flow condition of the receiving water at the discharge point (Q_{7Q10}). This dilution factor is used to determine the derived limits for protection of the following aquatic life and human health concerns for the reasons indicated:
 - i. Aquatic Life (see R.61-68.C.4.a(1)). Protection of aquatic life on a short-term basis is needed at the point where aquatic organisms become exposed to the discharge.
 - ii. Human Health – Organism Consumption for parameters identified as non-carcinogens per

R.61-68.C.4.b(1). Protection for human health on a short-term basis for consumption of aquatic organisms is needed at the point the aquatic organisms become exposed to the discharge.

$$DF_1 = \left(\frac{Q_{7Q10} + Q_d}{Q_d} \right)$$

DF_2 : This dilution factor is based on the Average Annual Flow of the receiving water at the discharge point (AAF_d). This dilution factor is used to determine the derived limits for protection of the following human health and organoleptic concerns for the reasons indicated:

- i. Human Health – Organism Consumption for parameters identified as carcinogens per R.61-68.C.4.b(1). Protection for human health on a long-term basis to prevent cancer due to consumption of aquatic organisms is needed at the point the aquatic organisms become exposed to the discharge.
- ii. Organoleptic effects per R.61-68.C.4.b(1). Protection for taste and odor issues related to the discharge is needed at the point where the discharge enters the receiving water.

$$DF_2 = \left(\frac{AAF_d + Q_d}{Q_d} \right)$$

DF_3 : This dilution factor is based on the 7Q10 or other critical flow condition (Q_{7Q10i}) for protection of a proposed or existing surface water drinking water intake that the discharge has the potential to affect. This dilution factor is used to determine the derived limits for protection of the following human health concerns for the reasons indicated:

- i. Human Health – Water and Organism (W/O) Consumption for parameters identified as non-carcinogens per R.61-68.C.4.b(1) and E.14.c(5) to protect for short-term health effects when the discharge has the potential to affect a surface water drinking water intake. Protection of human health relative to drinking the water from the waterbody and consuming aquatic organisms from the same waterbody is provided by this criterion, but drinking the water withdrawn from the waterbody may require a higher level of protection in terms of applicable dilution than consumption of organisms.
- ii. Human Health - Drinking Water Maximum Contaminant Level (MCL) for parameters identified as non-carcinogens per R.61-68.C.4.b(1) and E.14.c(5) to protect for short-term health effects when the discharge has the potential to affect a surface water drinking water intake. Protection of human health relative to drinking the water from the waterbody after conventional treatment per R.61-68.G is provided by this criterion.

$$DF_3 = \left(\frac{Q_{7Q10i} + Q_d}{Q_d} \right)$$

DF_4 : This dilution factor is based on the Average Annual Flow or other critical flow condition (AAF_i) for protection of a proposed or existing surface water drinking water intake that the discharge has the potential to affect. This dilution factor is used to determine the derived limits for protection of the following human health concerns for the reasons indicated:

- i. Human Health–Water and Organism Consumption for parameters identified as carcinogens per R.61-68.C.4.b(1) and E.14.c(5) to protect for long-term health effects due to cancer when the discharge has the potential to affect a surface water drinking water intake. Protection of human health relative to drinking the water from the waterbody and consuming aquatic organisms from the same waterbody is provided by this criterion, but drinking the water withdrawn from the waterbody may require a higher level of protection in terms of applicable dilution than consumption of organisms.
- ii. Human Health - Drinking Water Maximum Contaminant Level (MCL) for parameters identified as carcinogens per R.61-68.C.4.b(1) and E.14.c(5) to protect for long-term health effects due to cancer when the discharge has the potential to affect a surface water drinking water intake. Protection of human health relative to drinking the water from the waterbody after conventional treatment per R.61-68.G is provided by this criterion.

$$DF_4 = \left(\frac{AAF_i + Q_d}{Q_d} \right)$$

For both DF_3 and DF_4 , to satisfy the mixing zone requirements of R.61-68.C.10(a) for both W/O and MCL criteria, the Department will use the following flows to determine dilution:

1. The following applies to discharges and intakes in flowing rivers:
 - a. Where the discharge is within the SWPA (15 river miles) of the intake, the flow at the 15-river mile boundary of the tributary with the largest applicable critical flow will be used.
 - b. Where the discharge is outside the SWPA (15 river miles) of the intake, the applicable critical flow at the intake will be used.
2. When the discharge is either in the tributary to a lake or in a lake and the intake is in the same lake that does not behave as a run-of- river impoundment*, the flow is determined using the sum of the applicable critical flows of all tributaries entering the lake.
3. The following applies when both the discharge and the intake are in a lake arm that behaves as a run-of-river impoundment*:
 - a. Where the discharge is within the SWPA (15-mile buffer which may include both lake and river miles) of the intake, the flow at the 15-mile boundary of the tributary with the largest applicable critical flow will be used.
 - b. Where the discharge is outside the SWPA (15-mile buffer which may include both lake and river miles) of the intake, the applicable critical flow at the intake will be used.
4. Where the discharge is in the arm of a lake and the intake is in the upper reach of another arm of the lake, no protection of W/O or MCL criteria is needed because the discharge does not have the potential to affect the intake,
5. If the discharge has the potential to affect multiple intakes, the SWPA of the intake closest to the discharge will be protected. However, the permittee may be required to provide notification to all potentially affected intakes.
6. When the discharge is in a tidally influenced waterbody, the flow may be determined on a case-by-case

basis and the 7Q10 and AAF for source water protection will be specified [and may not use the 15 mile buffer listed above]. The determination of the source water protection area will be made using available data and taking into consideration tidal conditions.

* Run-of-river impoundment is defined as a lake or reservoir (or arm of a lake or reservoir) that is narrow and/or shallow offering little dilution or delay in contaminant flow toward an intake.

b. Determine derived limits using the following procedures:

WQS_{al} Receiving water Standard (based on an established criteria or other published data per R.61-68) for protection of Aquatic Life; may be a CCC or CMC as defined below

WQS_{org} Receiving water Standard (based on an established criteria or other published data per R.61-68) for protection of Human Health – Organism Consumption

WQS_{wo} Receiving water Standard (based on an established criteria or other published data per R.61-68), for protection of Human Health – Water & Organism Consumption. Applicable only if any portion of the mixing zone for this discharge is in a state-approved source water protection area for a proposed or existing water intake downstream of the discharge point.

WQS_{mcl} Receiving water Standard (based on an established criteria or other published data per R.61-68), for Drinking Water MCL (Maximum Contaminant Level). Applicable only if any portion of the mixing zone for this discharge is in a state-approved source water protection area for a proposed or existing water intake downstream of the discharge point.

WQS_{ol} : Receiving water Standard (based on an established criteria or other published data per R.61-68), based on Organoleptic Data.

C_{aqlife} Concentration limit derived from aquatic life data

C_{HH} Concentration limit derived from human health data as determined from organism (C_{org}), water/organism (C_{wo}) and MCL (C_{mcl}) data

C_{ol} Concentration limit derived from organoleptic data

C_b Background concentration of the concerned parameter in mg/l is typically determined from ambient monitoring data or data provided by applicant. If the waterbody to which the discharge flows is not on the 303(d) list, the 90th percentile of ambient monitoring data for aquatic life protection for the parameters identified in the Appendix (Water Quality Numeric Criteria) to Regulation 61-68 from the last 3 years, or whatever is available if less than 3 years, will typically be used. If the waterbody to which the discharge flows is not on the 303(d) list, the median value of ambient monitoring data for human health protection for the parameters identified in the Appendix (Water Quality Numeric Criteria) to Regulation 61-68 from the last 3 years, or whatever is available if less than 3 years, will typically be used. The background concentration is assumed to be zero (0) in the absence of actual data based on Departmental guidance and EPA recommendation.

i. Determine the derived limits for protection of Aquatic Life (C_{aqlife})

1. The following guidelines apply to determining aquatic life limits using this basic equation:

$$C_{aqlife} = (DF_1 \times WQS_{al}) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

a. Typically, the Criterion Maximum Concentration (CMC) is applied as a daily maximum derived limit and the Criterion Continuous Concentration (CCC) is applied as a monthly average derived limit, after consideration of dilution and background concentrations. The CMC and CCC for specific metals will be adjusted using the procedures in 60 FR 22229, “Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants;

States' Compliance-Revision of Metals Criteria," May 4, 1995 and the "Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria," Oct. 1, 1993 and applied as a daily maximum and monthly average, respectively, after consideration of dilution and background concentrations. For specific metals, this calculation is explained in detail later in this rationale.

$$\text{monthly average} = C_{aq\text{life}} \text{ using CCC as } WQS_{al}$$

$$\text{daily maximum} = C_{aq\text{life}} \text{ using CMC as } WQS_{al}$$

- b. If only a CMC exists for a particular parameter, the daily maximum derived permit limit will be set using that value, after consideration of dilution and background concentrations. If no other values (e.g., human health) exist for that parameter on which to base a monthly average limit and the discharge is continuous, the monthly average will be set equal to the daily maximum to satisfy Regulation 61-9.122.45(d). In no case shall the monthly average limit be set higher than the daily maximum limit. If only a CCC is given, it will be used as a monthly average derived limit and the daily maximum derived limit will be two (2) times the value obtained for the monthly average based on a simplified statistical procedure for determining permit limits recommended in Section 5.4.2 of the US EPA's "Technical Support Document for Water Quality-based Toxics Control", EPA/505/2-90-001, March 1991 (hereafter known as the TSD).

If a CCC exists and no CMC exists and no other acute or chronic data exists, the aquatic life limits are

$$\text{monthly average} = C_{aq\text{life}} \text{ using CCC as } WQS_{al}$$

$$\text{daily maximum} = 2 \times C_{aq\text{life}}$$

If a CMC and no CCC exists, and no other acute or chronic data exists, the aquatic life limits are

$$\text{monthly average} = C_{aq\text{life}} \text{ using CMC as } WQS_{al}$$

$$\text{daily maximum} = C_{aq\text{life}} \text{ using CMC as } WQS_{al}$$

- c. If only an acute toxicity effect concentration for a number of species for a particular pollutant is given as a LC_{50} , the lowest concentration should be divided by an acute-to-chronic ratio (ACR) of 10 and a sensitivity factor of 3.3, for an acceptable instream concentration in order to protect against chronic toxicity effects (R.61-68.E.16.a(1)). Other acute toxicity data will be handled similarly. The value obtained from this calculation will be used as a monthly average derived limit after consideration of dilution and background concentrations. The daily maximum will be two (2) times the value obtained for the monthly average based on a simplified statistical procedure for determining permit limits recommended in Section 5.4.2 of the TSD.

$$\text{monthly average} = C_{aq\text{life}} \text{ using other data as } WQS_{al}$$

$$\text{daily maximum} = 2 \times C_{aq\text{life}}$$

- d. If a chronic toxicity effect concentration for a number of species for a particular pollutant is given as a no observed effect concentration (NOEC), the lowest concentration should be divided by a sensitivity factor of 3.3 in order to protect against chronic toxicity to the most sensitive species (R.61-68.E.16.a(2)). Other chronic toxicity data will be handled similarly. The value obtained from this calculation will be used as a monthly average derived limit after consideration of dilution and background concentrations. The daily maximum will be two (2)

times the value obtained for the monthly average based on a simplified statistical procedure for determining permit limits recommended in Section 5.4.2 of the TSD.

$$\begin{aligned} \text{monthly average} &= C_{aq\text{life}} \text{ using other data as } WQS_{al} \\ \text{daily maximum} &= 2 \times C_{aq\text{life}} \end{aligned}$$

- e. If both acute and chronic data are available for a particular pollutant, monthly average derived limit will be calculated as in c and d above for each acute and chronic, respectively. The more stringent of the monthly average derived limits will be the monthly average derived limit used after consideration of dilution and background concentrations. The daily maximum will be two (2) times the value obtained for the monthly average based on a simplified statistical procedure for determining permit limits recommended in Section 5.4.2 of the TSD.

$$\begin{aligned} \text{monthly average} &= C_{aq\text{life}} \text{ using other data as } WQS_{al} \\ \text{daily maximum} &= 2 \times C_{aq\text{life}} \end{aligned}$$

- f. Consider the background concentration (C_b) of the parameter of concern. If the background concentration is equal to or greater than the applicable standard (WQS , as defined above) for the parameter of concern, then the derived concentration limit ($C_{aq\text{life}}$) for that parameter is established equal to the standard (WQS) so that no additional amount of that pollutant is added to the waterbody. An exception exists where the naturally occurring instream concentration for a substance is higher than the derived permit effluent limitation. In those situations, the Department may establish permit effluent limitations ($C_{eff\text{lim}}$) at a level higher than the derived limit, but no higher than the natural background concentration (i.e. a “rise above background” limit). In such cases, the Department may require biological instream monitoring and/or whole effluent toxicity (WET) testing (R.61-68.E.14.c(2)).

If C_b is not based on naturally occurring concentrations and

$$C_b \geq WQS$$

Then, generally,

$$C_{aq\text{life}} = WQS.$$

If C_b is based on naturally occurring concentrations and

$$C_b \geq WQS$$

Then, generally,

$$C_{aq\text{life}} < C_{eff\text{lim}} \leq C_b.$$

2. Metals: Regulation 61-9.122.45(c) requires that permit limits be expressed in terms of total recoverable metal (with limited exceptions). In order to translate from the water quality criterion to a total recoverable metal, Regulation R.61-68.E.14.c(4) provides for the use of the EPA Office of Water Policy and "Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria", October 1, 1993. A subsequent revision published in the Federal Register (60 FR 22229) on May 4, 1995 updated the data in the original report. See R.61-68 Appendix for CMC and CCC values and equations, Attachment 1 for “Conversion Factors for Dissolved Metals” and Attachment 2 “Parameters for Calculating Freshwater Dissolved Metals Criteria that are Hardness-Dependent”.

Per R.61-68.E.14.a(3), the CMC and CCC are based on a hardness of 25 mg/l if the ambient or mixed stream hardness is equal to or less than 25 mg/l. Concentrations of hardness less than 400 mg/l may be based on the mixed stream hardness if it is greater than 25 mg/l and less than 400

mg/l and 400 mg/l if the ambient stream hardness is greater than 400 mg/l. The ambient stream hardness is assumed to be 25 mg/l in the absence of actual stream data. Mixed stream hardness may be determined using flow-weighted effluent hardness and stream hardness.

The following equations and constants will be used to calculate aquatic life metals limits based on these documents. The values of the terms referenced in this section and determined from the equations below are included in the Metals spreadsheet attached to this rationale.

a. Freshwater: The following metals are subject to this section:

arsenic	lead
cadmium	mercury
chromium (III & VI)	nickel
copper	zinc

The equation for C_d below changes the total metal to dissolved metal. From Technical Guidance Manual for Performing Waste Load Allocations Book II, Rivers and Streams, EPA/440/484/022.

$$S = CCC \text{ or } CMC \text{ (adjusted for hardness)}$$

$$C_d = S \times CF$$

where C_d = Dissolved metal concentration ($\mu\text{g/l}$)

S = a constant to represent the CCC or CMC ($\mu\text{g/l}$)

CF = Conversion factor considered most relevant in fresh water for aquatic life as defined by EPA for each metal

Once the dissolved metal concentration is known, determine C_p using the equation for C_d above and the following equations.

$$C_p = C_d \times \left\{ 1 + \left(K_{pb} \times TSS_b \times 10^{-6} \right) \right\}$$

$$K_{pb} = K_{po} \times (TSS_b)^a$$

where C_p = Particulate sorbed metal concentration ($\mu\text{g/l}$). This value represents the revised water quality criterion for the metal to be used for ambient data comparison.

K_{pb} = Linear partition coefficient using the stream TSS (liters/mg)

K_{po} = Metal-specific equilibrium constant (liters/mg)

a = Metal-specific constant

TSS_b = Background or in-stream Total Suspended Solids (TSS) concentration (mg/l). The background TSS is assumed to be 1 mg/l in the absence of actual instream data based on the 5th percentile of ambient TSS data on South Carolina waterbodies from 1993-2000.

To determine the effluent limit (C_{aqlife}), use the following equations to translate the limits into a total recoverable metal concentration.

$$TSS_{avg} = \frac{(Q_d \times TSS_e) + (Q_{7Q10} \times TSS_b)}{Q_d + Q_{7Q10}}$$

where TSS_e = Effluent Total Suspended Solids (TSS) concentration (mg/l) determined from actual long-term average data or proposed permit limits if no data available.

TSS_{avg} = Average in-stream (mixed) TSS concentration (mg/l)

$$C_t = C_d \times \left\{ 1 + \left(K_p \times TSS_{avg} \times 10^{-6} \right) \right\}$$

$$K_p = K_{po} \times (TSS_{avg})^a$$

where C_t = Total metal concentration ($\mu\text{g/l}$)

K_p = Linear partition coefficient (liters/mg). This is the distribution of metal at equilibrium between the particulate and dissolved forms.

Once C_t has been calculated, it is multiplied by DF_1 and background concentrations are accounted for to obtain the derived limit (max or avg) (C_{aqlife}):

$$C_{aqlife} = (C_t \times DF_1) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

monthly average = C_{aqlife} based on CCC

daily maximum = C_{aqlife} based on CMC

- b. Saltwater: So that metals may be expressed in terms of total recoverable metal as required by R.61-9.122.45(c), the saltwater CCC and CMC will be used in the calculation of limits for all other parameters not included in paragraph 2 above. Monthly average derived limits (C_{aqlife}) for aquatic life protection are calculated as follows:

$$C_{aqlife} = (DF_1 \times WQS_{sl}) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

- c. The more stringent of the freshwater and saltwater values derived above for each pollutant will be used so that all waters are protected.
3. Where a Water Effects Ratio (WER) is used to adjust a criterion, derived limits for the adjusted aquatic life criterion ($C_{aqlife-adj}$) are calculated as follows. The WER is a type of site-specific permit effluent limit, as allowed by R.61-68.E.14.c(7), derived using a ratio determined from EPA methodology. Both DHEC and EPA must approve the WER prior to implementation. See EPA's 1994 "Interim Guidance on the Determination and Use of Water-Effect Ratios (WERs) for Metals." The approved WER will be shown in the water quality spreadsheets on the Data sheet. The revised aquatic life value will be shown with the WER, hardness and dissolved metals adjustments, as appropriate, in the aquatic life columns on the Pollutant spreadsheet.

- a. For metals identified in #2 above, revise the equation for S as follows:

$$S = [\text{CCC or CMC (adjusted for hardness)}] \times \text{WER}$$

Follow the remaining calculations in #2 above to get an adjusted C_{aqlife} value that will be used

to determine derived limits:

$$\begin{aligned} \text{monthly average} &= C_{aqlife-adj} \text{ based on CCC} \\ \text{daily maximum} &= C_{aqlife-adj} \text{ based on CMC} \end{aligned}$$

- b. For other parameters, use the appropriate equation in #1 above to derive an adjusted C_{aqlife} value. The monthly average will be calculated as follows using the appropriate WQS_{al} and the daily maximum calculated using the appropriate equations in #1 above.

$$C_{aqlife-adj} = (DF_1 \times WQS_{al} \times WER) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

4. Where the Recalculation Procedure is used to adjust a criterion, derived limits for the adjusted aquatic life criterion ($C_{aqlife-adj}$) are calculated as follows. The Recalculation Procedure is intended to cause a site-specific criterion to appropriately differ from the State-adopted national aquatic life criterion if justified by demonstrated pertinent toxicological differences between the aquatic species that occur at the site and those that were used in the derivation of the criterion. It is important to note that the site (the portion of the waterbody or watershed being affected) must be clearly defined. This type of site-specific effluent limit is allowed by R.61-68.E.14.c(7) Both DHEC and EPA must approve the recalculation prior to implementation.

The approved recalculated aquatic life criteria (SS-CCC and SS-CMC, as appropriate) will be shown adjusted for hardness on the Data spreadsheet. The additional dissolved metals adjustments, as appropriate, will be shown in the aquatic life columns on the Pollutant spreadsheet. If the parameter being adjusted is one of the metals in #2 above, SS will include all the appropriate metals adjustments.

$$C_{aqlife-adj} = (DF_1 \times SS - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\})$$

$$\begin{aligned} \text{monthly average} &= C_{aqlife-adj} \text{ based on CCC} \\ \text{daily maximum} &= C_{aqlife-adj} \text{ based on CMC} \end{aligned}$$

5. Where a WER and recalculation procedure are combined to adjust a criterion, derived limits ($C_{aqlife-adj}$) for aquatic life protection are calculated by combining the calculations in #3 and #4.

$$C_{aqlife-adj} = (DF_1 \times SS \times WER) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

$$\begin{aligned} \text{monthly average} &= C_{aqlife-adj} \text{ based on CCC} \\ \text{daily maximum} &= C_{aqlife-adj} \text{ based on CMC} \end{aligned}$$

6. Other scientifically defensible methods for developing site-specific aquatic life effluent limits or site-specific criterion may be used on a case-by-case basis.

ii. Determine derived limits for protection of Human Health

1. The following guidelines apply to determining human health limits:

- a. The human health criterion given by Regulation 61-68 will be applied as a monthly average

derived limit after consideration of dilution and background concentrations (C_{HH-avg}). Exceptions exist based on EPA criteria and are indicated for specific parameters. No limits on human health based on water and organism consumption or drinking water MCLs will be imposed if there is no potential to affect an existing or proposed surface water drinking water intake and no state-approved source water protection area in accordance with Regulation 61-68.E.14.c(5).

- b. The daily maximum permit limit will be determined from the monthly average value from (a) above and a multiplier (M) determined using a statistical procedure recommended in Section 5.5 using average = 95th percentile from Table 5-3 in the TSD. The permitted or proposed number of samples per month (n) is used with the coefficient of variation (CV) to determine M .

$$M = \frac{e^{(Z_m\sigma - 0.5\sigma^2)}}{e^{(Z_a\sigma_n - 0.5\sigma_n^2)}}$$

where:

$$\sigma_n^2 = \ln\left(\frac{CV^2}{n} + 1\right)$$

$$\sigma^2 = \ln(CV^2 + 1)$$

CV = coefficient of variation of the effluent concentration. For a data set where $n > 10$, the CV is calculated as standard deviation divided by mean for the data set being evaluated. For data set where $n < 10$, the CV is estimated to equal 0.6. For less than 10 items of data, the uncertainty in the CV is too large to calculate a standard deviation or mean with sufficient confidence.

n = the number of effluent samples per month (where frequency is less than 1/month, $n = 1$)

z_m = the percentile exceedance probability for the daily maximum permit limit (=2.326 for 99th percentile basis)

z_a = the percentile exceedance probability for the monthly average permit limit (=1.645 for 95th percentile basis)

$$C_{HH-max} = M * C_{HH-avg}$$

- c. Consider the background concentration (C_b) of the parameter of concern. If the background concentration is equal to or greater than the applicable standard (WQS , as defined above) for the parameter of concern, then the derived concentration limit (C_{HHe}) for that parameter and for the protection of that standard is established equal to the standard (WQS). An exception exists where the naturally occurring instream concentration for a substance is higher than the derived permit effluent limitation. In those situations, the Department may establish permit effluent limitations (C_{efflim}) at a level higher than the derived limit, but no higher than the natural background concentration (i.e. a “rise above background” limit). In such cases, the Department may require biological instream monitoring and/or whole effluent toxicity (WET) testing (See R.61-68.E.14.c(3)).

If C_b is not based on naturally occurring concentrations and

$$C_b \geq WQS$$

Then, generally,

$$C_{HH} = WQS.$$

If C_b is based on naturally occurring concentrations and

$$C_b \geq WQS$$

Then, generally,

$$C_{HH} < C_{eff\ lim} \leq C_b.$$

2. Human Health – Organism Consumption (C_{org}).

a. For Carcinogens

The Monthly Average is calculated as follows:

$$C_{org} = (DF_2 \times WQS_{org}) - \left\{ C_b \times \left(\frac{AAF_d}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{org-max} = M * C_{org}$$

b. For Non-carcinogens

The Monthly Average is calculated as follows:

$$C_{org} = (DF_1 \times WQS_{org}) - \left\{ C_b \times \left(\frac{Q_{7Q10}}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{org-max} = M * C_{org}$$

3. Human Health – Water and Organism Consumption (C_{wo})

a. For Carcinogens

The Monthly Average is calculated as follows:

$$C_{wo} = (DF_4 \times WQS_{wo}) - \left\{ C_b \times \left(\frac{AAF_i}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{wo-max} = M * C_{wo}$$

b. For Non-carcinogens

The Monthly Average is calculated as follows:

$$C_{wo} = (DF_3 \times WQS_{wo}) - \left\{ C_b \times \left(\frac{Q_{7Q10i}}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{wo-max} = M * C_{wo}$$

4. Human Health – Drinking Water Maximum Contaminant Level (MCL) (C_{mcl}).

a. For Carcinogens

The Monthly Average is calculated as follows:

$$C_{mcl} = (DF_4 \times WQS_{mcl}) - \left\{ C_b \times \left(\frac{AAF_i}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{mcl-max} = M * C_{mcl}$$

b. For Non-carcinogens

The Monthly Average is calculated as follows:

$$C_{mcl} = (DF_3 \times WQS_{mcl}) - \left\{ C_b \times \left(\frac{Q_{7Q10i}}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{mcl-max} = M * C_{mcl}$$

5. Organoleptic criteria (C_{ol}).

The Monthly Average is calculated as follows:

$$C_{ol} = (DF_2 \times WQS_{ol}) - \left\{ C_b \times \left(\frac{AAF_d}{Q_d} \right) \right\}$$

The Daily Maximum is calculated as

$$C_{ol-max} = M * C_{ol}$$

- iii. Parameters given in a wasteload allocation for oxygen-demanding pollutants and nutrients will be limited as

$$\begin{aligned} \text{monthly average} &= C_{wla} \\ \text{daily maximum} &= 2 \times C_{wla} \end{aligned}$$

- c. Determine the most stringent of applicable water quality data using the derived limits determined above:

$$\begin{aligned} \text{monthly average } C_{effim} &= \text{minimum of derived monthly averages } (C_{aqlife}, C_{org}, C_{wo}, C_{mcl}, C_{ol}, C_{wla}) \\ \text{daily maximum } C_{effim} &= \text{minimum of derived daily maximums } (C_{aqlife}, C_{org-max}, C_{wo-max}, C_{mcl-max}, C_{ol-max}, C_{wla-max}) \end{aligned}$$

- d. Determine whether the discharge causes, has the reasonable potential to cause or contributes to a water quality violation.

Regulation 61-9.122.44(d)(1)(i) states: “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Department determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

When determining whether a discharge causes, has the reasonable potential to cause or contributes to an instream excursion, the Department will use procedures which account for controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and, where appropriate, the dilution of the effluent in the receiving water (R.61-9.122.44(d)(1)(ii)).

Based on the above statements, there are three scenarios when limitations are required, as follows:

- i. When data provided by the permit applicant indicates discharge values greater than the proposed limitation derived above, that discharge may cause an excursion above a narrative or numeric water quality criterion.
- ii. A discharge may be determined to contribute to an excursion of a water quality criterion when the waterbody is impaired (e.g., on the 303(d) list) for the parameter of concern and that parameter is also being discharged at levels above the water quality criterion.
- iii. Reasonable potential to cause a water quality violation is determined using the following information:

The Department will primarily use EPA’s Technical Support Document (TSD) for determining reasonable potential using effluent data. Other methods may be used as well to evaluate data sets. All pollutants given in a wasteload allocation or an effluent limitation guideline will be limited in the permit.

When effluent data consists of non-quantifiable/non-detectable values or when no effluent data is available, other factors and information are considered to determine reasonable potential. In situations where a pollutant is known to be present in the wastestream (due to production data or other information), we know it is being discharged and has the potential to impact even though it may not be quantifiable. The fact that it is present will be enough information to say reasonable potential exists for that pollutant. Therefore, a reasonable potential decision is based on various data and information, and not just non-quantifiable/non-detectable data. Consideration is given to existing data, dilution in the waterbody, type of receiving water, designated use, type of industry/wastestream, ambient data, history of compliance, and history of toxic impact. If any source of information indicates reasonable potential to cause or contribute to an exceedance of the water quality standard, a water quality limit will be established.

Note: The result of the following calculations may indicate that reasonable potential does not exist. However, as stated above, other information may “override” this numerical determination to justify the need for a limit.

1. The procedure for determining reasonable potential from actual effluent data is explained in Box 3-2 on page 53 of the TSD. Multiplying factors are determined from Table 3-2 at a 95% confidence level and 95% probability in Section 3.3.2. The following describes the procedures used for determining reasonable potential for chemical-specific parameters and WET, under certain circumstances. More information on determining reasonable potential for WET is given in Item 2 below.

Step 1: Data Analysis: The statistical calculations involved in the “Reasonable Potential” analysis require discrete numerical data. The following describes how the effluent data will be used in determining reasonable potential.

Actual analytical results should be used whenever possible. Results less than detection and quantification should be used as follows:

- a. If the permittee reports results below the practical quantitation limit (PQL) (as defined by the permit), then the reported “less than PQL” value for a given sample is generally assumed to be zero.
- b. If the permittee uses a detection/quantification level that is **greater** than the PQL, then the reported “less than” value for a given sample is generally assumed to be a discrete value equal to the detection/quantification level used by the permittee.
- c. If the reported data consists of both discrete and non-discrete values and/or the data is reported using varying detection/quantification levels, then, generally, a combination of the above two approaches is used, or the data is evaluated in a manner that is most appropriate for that data set.

Note: For information on the acceptable analytical methods and PQLs please refer to NPDES permit application attachment titled “Practical Quantitation Limits (PQL) and Approved Test Methods.”

Step 2: Using data from the permit application, other data supplied by the applicant and/or Discharge Monitoring Report (DMR) data, determine the total number of observations (n) for a particular set of effluent data and determine the highest value (C_{max}) from that data set. For the monthly average comparison, the data set will include monthly average results and n will be the number of months in which they sampled in the time period being evaluated. For the daily maximum comparison, the data set will include daily maximum results and n will be the total number of samples in the time period being evaluated. Individual results may not necessarily be used in the calculation.

Step 3: Determine the coefficient of variation (CV) for the data set. For a data set where $n > 10$, the CV is calculated as standard deviation divided by mean for the data set being evaluated. For data set where $n < 10$, the CV is estimated to equal 0.6. For less than 10 items of data, the uncertainty in the CV is too large to calculate a standard deviation or mean with sufficient confidence.

$$CV = 0.6 \quad \text{for } n < 10$$

$$CV = \frac{\sigma}{\mu} \quad \text{for } n > 10$$

where: σ = Standard Deviation of the samples
 μ = Mean of the samples

Step 4: Determine the appropriate multiplying factor (MF) from either Table 3-2 or using the formulae in Section 3.3.2 of the TSD.

- a. Determine the percentile represented by the highest concentration in the sample data.

$$p_n = (1 - \text{Confidence Level})^{1/n}$$

where: p_n = Percentile represented by the highest concentration in the data
 n = number of samples
 $\text{Confidence Level} = 0.95$ i.e. 95%

- b. Determine the multiplying factor (MF), which is the relationship between the percentile described above (C_p) and the selected upper bound of the lognormal effluent distribution, which in this case will be the 95th percentile (C_{95}).

$$MF = \frac{C_{95}}{C_p} = \frac{e^{(Z_{95}\sigma + 0.5\sigma^2)}}{e^{(Z_p\sigma + 0.5\sigma^2)}}$$

where: Z_{95} is the standardized Z-score for the 95th percentile of the standardized normal distribution = 1.645

Z_p is the standardized Z-score for the p^{th} percentile of the standardized normal distribution. (determined in (b) above)

Note: The values of Z-scores are listed in tables for the normal distribution. If using Microsoft® Excel, this can be calculated using the NORMSINV function.

$$\sigma^2 = \ln(CV^2 + 1)$$

$$\sigma = \sqrt{\ln(CV^2 + 1)}$$

- Step 5: Multiply the highest value from the data set (C_{max}) by the multiplying factor (MF) determined in Step 4 to obtain the maximum receiving water concentration (RWC).

$$RWC = C_{\text{max}} \times MF$$

- Step 6: $RWC \leq$ Derived limit (C_{efflim}) implies that reasonable potential does not exist.

$RWC >$ Derived limit (C_{efflim}) implies that reasonable potential exists.

2. Reasonable potential for Whole Effluent Toxicity (WET) may be determined from numerical data using the following procedure:

- a. When the effluent data is given in terms of percent effluent as an IC_{25} , LC_{50} and/or NOEC values:

Step 1: Convert the given values to toxic units: TU_a for acute data and TU_c for chronic data, respectively, using the following formulae. Please note that an NOEC derived using the IC_{25} is approximately the analogue of an NOEC derived using hypothesis testing. The IC_{25} is the preferred statistical method for determining the NOEC (EPA TSD, March 1991, p.6).

$$TU_a = \frac{100}{LC_{50}}$$

$$TU_c = \frac{100}{NOEC} \quad \text{or} \quad TU_c = \frac{100}{IC_{25}} \quad \text{if } IC_{25} \text{ available}$$

Step 2: Using DMR data or other data provided by the applicant, determine the total number of observations (n) for a particular set of effluent data and determine the highest value ($TU_{a, \max}$ or $TU_{c, \max}$) from that data set.

Step 3: Determine the coefficient of variation (CV) for the data set. For a data set where $n > 10$, the CV is calculated as standard deviation divided by mean. For data set where $n < 10$, the CV is estimated to equal 0.6. For less than 10 items of data, the uncertainty in the CV is too large to calculate a standard deviation or mean with sufficient confidence.

Step 4: Determine the appropriate multiplying factor (MF) from either Table 3-2 or using the formulae in Section 3.3.2. (see iii.1, Step 4 above).

Step 5: Multiply the highest value of $TU_{a, \max}$ or $TU_{c, \max}$ from the data set by the multiplying factor (MF) determined in Step 4 and the dilution at the edge of the mixing zone (the test concentration obtained from mixing zone modeling or demonstration) to obtain the maximum receiving water concentration (RWC)

$$RWC \text{ for Acute Toxicity} = [TU_{a, \max} * MF * \text{conc. at MZ boundary}]$$

$$RWC \text{ for Chronic Toxicity} = [TU_{c, \max} * MF * \text{conc. at MZ boundary}]$$

Step 6: RWC for Acute Toxicity $\leq 0.3TU_a$ implies that a reasonable potential does not exist
 RWC for Acute Toxicity $> 0.3TU_a$ implies that a reasonable potential exists

$$RWC \text{ for Chronic Toxicity} \leq 1.0TU_c \text{ implies that a reasonable potential does not exist}$$

$$RWC \text{ for Chronic Toxicity} > 1.0TU_c \text{ implies that a reasonable potential exists}$$

b. Other methods for determining reasonable potential may be used if appropriately justified.

e. Consider Effluent Limitations Guidelines (ELG or Categorical guidelines)

The more stringent of the effluent limitations guidelines average and maximum derived limits and water quality-derived average and maximum limits shall be used as permit limits, unless other information indicates more stringent limits are needed (e.g. previous permit limits due to backsliding). Categorical limitations based on mass may be converted to concentration using the long-term average flow of the discharge for comparison to the monthly average and daily maximum derived limits.

1. For effluent guidelines based on production, limits will be calculated as follows:

$$ELG \text{ lim} = \sum (ELG_{prod})(ELG) \text{ where}$$

ELG_{lim} : the mass limit, in lbs/day, for an applicable pollutant based on the production

ELG_{prod} : the production rate, in lbs, for the applicable guideline(s), usually based on long-term average data

ELG : the effluent guideline limitation, given as a measure of production (e.g. lbs/1000 lbs), for an

applicable pollutant

2. For effluent guidelines based on flow, limits will typically be calculated as follows:

$$ELG \text{ lim} = \sum (ELG \text{ flow})(ELG)(8.345)$$

ELGlim: the mass limit, in lbs/day, for the applicable pollutant based on the applicable flow

ELGflow: the long-term average process flow rate, in MGD, for the applicable guideline(s) (unless otherwise specified in the guideline)

ELG: the concentration limitation, in mg/l, for the applicable pollutant from the applicable guideline(s)

H. Other considerations

1. When the derived permit effluent limitation based on aquatic life numeric criteria is below the practical quantitation limit for a substance, the derived permit effluent limitation shall include an accompanying statement in the permit that the practical quantitation limit using approved analytical methods shall be considered as being in compliance with the limit. Appropriate biological monitoring requirements shall be incorporated into the permit to determine compliance with appropriate water quality standards (R.61-68.E.14.c(2)).
2. When the derived permit effluent limitation based on human health numeric criteria is below the practical quantitation limit for a substance, the derived permit effluent limitation shall include an accompanying statement in the permit that the practical quantitation limit using approved analytical methods shall be considered as being in compliance with the limit (R.61-68.E.14.c(3)).
3. The effluent concentration limits determined above may not necessarily be the NPDES permit limit. NPDES Permit limits are determined after a reasonable potential analysis is conducted using these derived limits and also after evaluating other issues such as anti-backsliding and antidegradation.
4. When mass limits are calculated, the formula to be used is as follows.

$$\text{Mass (lb/day)} = \text{Flow (mgd)} * \text{Concentration (mg/l)} * 8.345$$

5. Per Regulation 61-9.122.45(d), for continuous discharges all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall unless impracticable be stated as maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works.
6. Antbacksliding: When a permit is reissued, the terms and conditions of the reissued permit must be at least as stringent as those final limits in the previous permit unless certain exceptions are met (see Regulation 61-9.122.44.1).

IV. PROCEDURES FOR REACHING A FINAL PERMIT DECISION

A. Comment Period (R.61-9.124.10 and 11)

The Department of Health and Environmental Control proposes to issue an NPDES permit to this applicant subject to the effluent limitations and special conditions outlined in this document. These determinations are tentative.

During the public comment period, any interested person may submit written comments on the draft permit to the following address:

SC Dept. of Health and Environmental Control
Water Facilities Permitting Division
Bureau of Water
2600 Bull Street
Columbia, South Carolina 29201

For additional information, interested persons may contact **Randy Thompson** at 803-898-4314.

All written comments received during the public comment period shall be considered in making the final decision and shall be responded to as prescribed below.

Per R.61-9.124.17, the Department is only required to issue a response to comments when a final permit is issued. This response shall:

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 raised during the public comment period, or during any hearing.

The response to comments shall be available to the public.

B. Public Hearings (R.61-9.124.11 and 12)

During the public comment period, any interested person 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.

Determinations and Scheduling.

1. Within the thirty (30) day comment period or other applicable comment period provided after posting or publishing of a public notice, an applicant, any affected state or interstate agency, the Regional Administrator or any other interested person or agency may file a petition with the Department for a public hearing on an application for a permit. A petition for a public hearing shall indicate the specific reasons why a hearing is requested, the existing or proposed discharge identified therein and specifically indicate which portions of the application or other permit form or information constitutes necessity for a public hearing. If the Department determines that a petition constitutes significant cause or that there is sufficient public interest in an application for a public hearing, it may direct the scheduling of a hearing thereon.
2. A hearing shall be scheduled not less than four (4) nor more than eight (8) weeks after the Department determines the necessity of the hearing in the geographical location of the applicant or, at the discretion of the Department, at another appropriate location, and shall be noticed at least thirty (30) days before the hearing. The notice of public hearing shall be transmitted to the applicant and shall be published in at least one (1) newspaper of general circulation in the geographical area of the existing or proposed discharge identified on the permit application and shall be mailed to any person or group upon request thereof. Notice shall be mailed to all persons and governmental agencies which received a copy of the notice or the fact sheet for the permit application.
3. The Department may hold a single public hearing on related groups of permit applications.
4. The Department may also hold a public hearing at its discretion, whenever, for instance, such a hearing might clarify one or more issues involved in the permit decision;

5. Public notice of the hearing shall be given in accordance with R.61-9.124.10.

Any person may submit oral or written statements and data concerning the draft permit. 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 R.61-9.124.10 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.

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

C. Obligation to raise issues and provide information during the public comment period. (R.61-9.124.13)

All persons, including applicants, who believe 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 raise 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). No issue shall be raised during an appeal by any party that was not submitted to the administrative record as part of the preparation and comment on a draft permit, unless good cause is shown for the failure to submit it. Any supporting materials which are submitted shall be included in full and may not be incorporated by reference, unless they are already part of the administrative record in the same proceeding, or consist of State or Federal statutes and regulations, Department and EPA documents of general applicability, or other generally available reference materials. Commenters shall make supporting materials not already included in the administrative record available. (A comment period longer than 30 days may be necessary to give commenters a reasonable opportunity to comply with the requirements of this section. Additional time shall be granted under R.61-9.124.10 to the extent that a commenter who requests additional time demonstrates the need for such time).

D. Issuance and Effective Date of the Permit

1. After the close of the public comment period on a draft permit, the Department shall issue a final permit decision. The Department shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice shall include reference to the procedures for appealing a decision on 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.
2. A final permit decision shall become effective 30 days after the service of notice of the decision unless:
 - (a) A later effective date is specified in the decision; or
 - (b) No comments requested a change in the draft permit, in which case the permit shall become effective on the effective date shown in the issued permit.
3. Issuance or Denial of Permits. An appeal to a final determination of the Department or to a condition of a permit issued or the denial of a permit pursuant to the State law and Regulation 61-9, shall be in accordance with and subject to 48-1-200 of the SC Code (see E below).

E. Adjudicatory Hearings

The decision of the South Carolina Department of Health and Environmental Control (Department) becomes the final agency decision fifteen (15) calendar days after notice of the decision has been mailed to the applicant, permittee, licensee and affected persons who have requested in writing to be notified, unless a written request for

final review accompanied by a filing fee in the amount of \$100 is filed with Department by the applicant, permittee, licensee or affected person.

Applicants, permittees, licensees, and affected parties are encouraged to engage in mediation during the final review process.

If the Board declines in writing to schedule a final review conference, the Department's decision becomes the final agency decision and an applicant, permittee, licensee, or affected person may request a contested case hearing before the Administrative Law Court within thirty (30) calendar days after notice is mailed that the Board declined to hold a final review conference.

1. **Filing of Request for Final Review**

- (a) A written Request for Final Review (RFR) and the required filing fee of one hundred dollars (\$100) must be received by Clerk of the Board within fifteen (15) calendar days after notice of the staff decision has been mailed to the applicant, permittee, licensee, or affected persons. If the 15th day occurs on a weekend or State holiday, the RFR must be received by the Clerk on the next working day. RFRs will not be accepted after 5:00 p.m.
- (b) RFRs shall be in writing and should include, at a minimum, the following information:
- the grounds for amending, modifying, or rescinding the staff decision;
 - a statement of any significant issues or factors the Board should consider in deciding how to handle the matter;
 - the relief requested; and
 - a copy of the decision for which review is requested.
- (c) RFRs should be filed in person or by mail at the following address:
- South Carolina Board of Health and Environmental Control
Attention: Clerk of the Board
2600 Bull Street
Columbia, South Carolina 29201
- Alternatively, RFR's may be filed with the Clerk by facsimile (803-898-3393) or by electronic mail (boardclerk@dhec.sc.gov).
- (d) The filing fee may be paid by cash, certified check or credit card. If a RFR is filed by facsimile or electronic mail, the filing fee may be mailed to the Clerk of the Board and the envelope must be postmarked within the time allowed for filing a RFR.
- (e) If there is any perceived discrepancy in compliance with this RFR filing procedure, the Clerk should consult with the Chairman or, if the Chairman is unavailable, the Vice-Chairman. The Chairman or the Vice-Chairman will determine whether the RFR is timely and properly filed and direct the Clerk to (1) process the RFR for consideration by the Board or (2) return the RFR and filing fee to the requestor with a cover letter explaining why the RFR was not timely or properly filed. Processing an RFR for consideration by the Board shall not be interpreted as a waiver of any claim or defense by the agency in subsequent proceedings concerning the RFR.
- (f) If the RFR will be processed for Board consideration, the Clerk will send an Acknowledgement of RFR to the Requestor and the applicant, permittee, or licensee, if other than the Requestor.

- (g) The Clerk will email the RFR to all Board members for review, and all Board members will confirm receipt of the RFR to the Clerk by email. If a Board member does not confirm receipt of the RFR within twenty-four (24) hour period, the Clerk will contact the Board member and confirm receipt. If a Board member believes the RFR should be considered by the RFR Committee, he or she will respond to the Clerk's email within forty-eight (48) hours and will request further review. If no Board member requests further review of the RFR within the forty-eight (48) hour period, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, stating the Board will not hold a Final Review Conference. A copy of the Notice of Appeal Procedure will be included with the letter.

NOTE: If the time periods described above end on a weekend or State holiday, the time is automatically extended to 5:00 p.m. on the next business day.

- (h) If the RFR is to be considered by the RFR Committee, the Clerk will forward a copy of the RFR to Department staff and Office of General Counsel. A Department response to the RFR should be provided by Department staff to the Clerk within eight (8) working days after the RFR is forwarded.

2. Final Review Conference Scheduling

- (a) If a Conference will be held, the Clerk will send a letter by certified mail to the Requestor, with copy by regular mail to the applicant, permittee, or licensee, if not the Requestor, informing the Requestor of the determination.
- (b) The Clerk will request Department staff provide the Administrative Record.
- (c) The Clerk will send Notice of Final Review Conference to the parties at least ten (10) days before the Conference. The Conference will be publically noticed and should:
- include the place, date and time of the Conference;
 - state the presentation times allowed in the Conference;
 - state evidence may be presented at the Conference;
 - if the conference will be held by committee, include a copy of the Chairman's order appointing the committee; and
 - inform the Requestor of his or her right to request a transcript of the proceedings of the Conference prepared at Requestor's expense.
- (d) If a party requests a transcript of the proceedings of the Conference and agrees to pay all related costs in writing, including costs for the transcript, the Clerk will schedule a court reporter for the Conference.

3. Final Review Conference and Decision

- (a) The order of presentation in the Conference will, subject to the presiding officer's discretion, be as follows:
- Department staff will provide an overview of the staff decision and the applicable law to include [10 minutes]:
 - Type of decision (permit, enforcement, etc.) and description of the program.
 - Parties
 - Description of facility/site

- Applicable statutes and regulations
- Decision and materials relied upon in the administrative record to support the staff decision.
- Requestor(s) will state the reasons for protesting the staff decision and may provide evidence to support amending, modifying, or rescinding the staff decision. [15 minutes] *NOTE: The burden of proof is on the Requestor(s)*
- Rebuttal by Department staff [15 minutes]
- Rebuttal by Requestor(s) [10 minutes]

Note: Times noted in brackets are for information only and are superseded by times stated in the Notice of Final Review Conference or by the presiding officer.

- (b) Parties may present evidence during the conference; however, the rules of evidence do not apply.
- (c) At any time during the conference, the officers conducting the conference may request additional information and may question the Requestor, the staff, and anyone else providing information at the conference.
- (d) The presiding officer, in his or her sole discretion, may allow additional time for presentations and may impose time limits on the Conference.
- (e) All Conferences are open to the public.
- (f) The officers may deliberate in closed session.
- (g) The officers may announce the decision at conclusion of the Conference or it may be reserved for consideration.
- (h) The Clerk will mail the written final agency decision (FAD) to parties within 30 days after the Conference. The written decision must explain the basis for the decision and inform the parties of their right to request a contested case hearing before the Administrative Law Court. The FAD will be sent by certified mail, return receipt requested.
- (i) Communications may also be sent by electronic mail, in addition to the forms stated herein, when electronic mail addresses are provided to the Clerk.

The above adjudicatory information is provided as a courtesy; parties are responsible for complying with all applicable legal requirements.