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South Carolina Department of Health
and Environmental Control

National Pollutant Discharge Elimination System Permit

for Discharge to Surface Waters

This Permit Certifies That

Duke Energy Carolinas, LLC

William States Lee III Nuclear Station

has been granted permission to discharge from a facility located at

*1313 McKowns Mountain Road
Gaffney, SC
Cherokee County*

to receiving waters named

*Broad River
at Ninety-Nine Islands Reservoir*

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."

A handwritten signature in black ink, appearing to read 'Jeffrey P. deBessonnet', is written over a horizontal line.

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

Issue Date: July 17, 2013

Expiration Date: August 31, 2018

Effective Date: September 1, 2013

Permit No.: SC0049140

Table of Contents

PART I. Definitions	3
PART II. Standard Conditions	7
A. Duty to comply.....	7
B. Duty to reapply.....	7
C. Need to halt or reduce activity not a defense	7
D. Duty to mitigate	7
E. Proper operation and maintenance.....	7
F. Permit actions	9
G. Property rights.....	9
H. Duty to provide information	9
I. Inspection and entry	9
J. Monitoring and records.....	10
K. Signatory requirement.....	12
L. Reporting requirements.....	13
M. Bypass	18
N. Upset	19
O. Misrepresentation of Information	19
Part III. Limitations and Monitoring Requirements	20
A. Effluent Limitations and Monitoring Requirements.....	20
B. Whole Effluent Toxicity and Other Biological Limitations and Monitoring Requirements	24
C. Groundwater Monitoring Requirements	25
D. Sludge Monitoring Requirements.....	25
E. Soil Monitoring Requirements.....	25
Part IV. Schedule of Compliance	26
Part V. Other Requirements	27
A. Effluent Requirements	27
B. Whole Effluent Toxicity and Other Biological Requirements.....	28
C. Groundwater Requirements	30
D. Sludge Requirements	30
E. Other Conditions.....	30

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 and enterococci, is the arithmetic mean of all samples collected in a calendar month period. The monthly average for fecal coliform 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 permittee shall provide for the performance of daily treatment facility inspections by a certified operator of the appropriate grade as defined in Part V.E of this permit. The Department may make exceptions to the daily operator requirement in accordance with R.61-9.122.41(e)(3)(ii). 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.

- 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 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) 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) 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. 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 at the frequency specified elsewhere in the permit 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	EQC Region	Phone No.
Anderson, Oconee	Region 1- Anderson EQC Office	864-260-5569
Abbeville, Edgefield, Greenwood, Laurens, McCormick, Saluda	Region 1 – Greenwood EQC Office	864-223-0333

Greenville, Pickens	Region 2 – Greenville EQC Office	864-241-1090
Cherokee, Spartanburg, Union	Region 2 – Spartanburg EQC Office	864-596-3800
Fairfield, Lexington, Newberry, Richland	Region 3 –Columbia EQC Office	803-896-0620
Chester, Lancaster, York	Region 3 – Lancaster EQC Office	803-285-7461
Chesterfield, Darlington, Dillon, Florence, Marion, Marlboro	Region 4 – Florence EQC Office	843-661-4825
Clarendon, Kershaw, Lee, Sumter	Region 4 – Sumter EQC Office	803-778-6548
Aiken, Allendale, Bamberg, Barnwell, Calhoun, Orangeburg	Region 5 – Aiken EQC Office	803-641-7670
Georgetown, Horry, Williamsburg	Region 6 – Myrtle Beach EQC Office	843-238-4378
Berkeley, Charleston, Dorchester	Region 7 – Charleston EQC Office	843-953-0150
Beaufort, Colleton, Hampton, Jasper	Region 8 – Beaufort EQC Office	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 $\mu\text{g/l}$) for acrolein and acrylonitrile; five hundred micrograms per liter (500 $\mu\text{g/l}$) 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

- 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: cooling tower blowdown, water treatment wastes, floor and equipment drains, laboratory waste, diesel fuel oil area sump wastewater, and low-level radioactive wastes

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	Calculated ³
pH			Min ¹ 6.0 s.u.		Max 8.5 s.u.		1/week	Grab
Lead, total			MR ² , mg/l	MR ² , mg/l			2/month	Grab
Temperature June - September				95°F ⁴			Daily	Continuous
Temperature October - May				90°F			Daily	Continuous
Bromide, total			MR ² , mg/l	MR ² , mg/l			1/Month	Grab
Phosphorus, total			MR ² , mg/l	MR ² , mg/l			1/Quarter	Grab
Nitrogen, total			MR ² , mg/l	MR ² , mg/l			1/Quarter	Calculated ⁵

¹ See Part I.S

² MR: Monitor and Report

³ Flow shall be calculated as the sum of flows from outfalls 001a, 001b, and 001c and any water from Pond A used to dilute outfall 001c.

⁴ The Department is allowing a mixing zone for temperature. The discharge temperature limitation of 95° during the months of June to September is designed to ensure the water quality criteria for temperature are met at the edge of the mixing zone.

⁵ Total Nitrogen shall be calculated as the sum of Total Kjeldahl Nitrogen and Nitrate+Nitrite nitrogen.

- Samples taken in compliance with the monitoring requirements for pH and Lead specified above shall be taken at the following location(s): after mixing of 001a, 001b, and 001c but prior to mixing with the receiving stream. Monitoring for Temperature shall take place at the following location: adjacent to and downstream of the sump in which 001a and 001b are combined.

2. 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 001a: Cooling tower blowdown

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	Continuous ³	
pH			Min ¹ MR ² s.u.		Max MR ² s.u.	1/week	Grab	
Free Available Chlorine (FAC) ⁴			0.2 mg/l	0.5 mg/l		1/month	Multiple Grabs ⁵	
Chromium, total ⁶			0.2 mg/l	0.2 mg/l		1/month	Grab	
Zinc, total ⁶			1.0 mg/l	1.0 mg/l		1/month	Grab	

¹ See Part I.5

² MR: Monitor and Report

³ See Part II.J.1.b

⁴ See V.A.3

⁵ Multiple grabs shall consist of grab samples collected at the approximate beginning of the period of Total Residual Chlorine (TRC) and/or Free Available Chlorine (FAC) discharge and once every twenty (20) minutes until TRC or FAC is no longer present.

⁶ These parameters are only required to be monitored when chromium and zinc-containing cooling tower maintenance chemicals are used.

- a. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): at or near the cooling tower discharge but prior to mixing with any other waste stream.
- b. The discharge of one hundred twenty-six (126) toxic pollutants, except chromium and zinc, is prohibited in detectable amounts in chemicals added for cooling tower maintenance. The permittee may demonstrate compliance with such limitations by either routinely sampling and analyzing for the pollutants in the discharge or providing engineering calculations which demonstrate that the regulated pollutants are not detectable in the discharge. Results of sampling or calculations to meet this requirement shall be submitted as an attachment to the DMRs on an annual basis.

3. 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 001b: Effluent from the wastewater treatment system. This includes water treatment wastes, floor and equipment drains, laboratory waste, and diesel fuel oil area sump wastewater.

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	Continuous ³
pH			Min ¹ MR ² s.u.		Max MR ² s.u.		1/week	Grab
Total Suspended Solids (TSS)			30 mg/l	100 mg/l			1/month	Grab
Oil & Grease			15 mg/l	20 mg/l			1/month	Grab

¹See Part I.T

²MR: Monitor and Report

³See Part II.J.1.b

- 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 any other waste stream.

4. 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 001c: Low-level radioactive wastes.

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	Continuous ³
pH			Min ¹ MR ² s.u.			Max MR ² s.u.	1/week	Grab
Total Suspended Solids (TSS)			30 mg/l	100 mg/l			1/month	Grab
Oil & Grease			15 mg/l	20 mg/l			1/month	Grab

¹See Part I.T

²MR: Monitor and Report

³See Part II.J.1.b

- 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 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:

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= 20%	25 %	40 %	1/month	24 hour composite

See Part V.B.2 for additional toxicity reporting requirements.

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).

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

Not applicable to this permit.

D. Sludge Monitoring Requirements

Not applicable to this permit.

E. Soil Monitoring Requirements

Not applicable to this permit.

Part IV. Schedule of Compliance

A. Schedule(s)

Not applicable

- 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. Neither free available chlorine or total residual chlorine may be discharged from any single generating unit for more than two (2) hours in any one day, and not more than one unit in any plant may discharge Free Available Chlorine or Total Residual Chlorine at any one time unless the permittee can demonstrate to the Department that the units in a particular location cannot operate at or below this level of chlorination.
4. Unless authorized elsewhere in this permit, the permittee must meet the following requirements concerning maintenance chemicals for the following waste streams: cooling tower blowdown or recirculated 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 except chromium and zinc 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.
5. This permit may be reopened to reduce the sampling frequency of outfall 001c to once per year for total suspended solids, oil and grease, and pH based on an evaluation of whether the discharge, with respect to each pollutant parameter, has a reasonable likelihood to violate the applicable discharge limitations. This evaluation shall be based on a minimum of 12 months of sampling data.
6. No later than 2 years after the commencement of discharge, the permittee must complete and submit Parts V and VI of EPA Application Form 2C for each outfall in accordance with Regulation 61-9.122.21(k)(5)(vi).
7. The permittee shall include the following information with the Forms 2C required by Part V.A.6.
 - a. The cycles of concentration at which the cooling towers were operating when the Form 2C samples were taken for outfalls 001 and 001a.
 - b. A general description (e.g. frequency, duration, causes) of the times cycles of concentration exceeded the conditions at the time the samples were taken.
8. Radioactive components of the discharge are regulated by the United States Nuclear Regulatory Commission.
9. This permit may be reopened to reduce the sampling frequency from weekly to monthly for pH at outfalls 001, 001a, and 001b based on an evaluation of the consistency of the data and whether the discharge has a reasonable likelihood to violate the pH discharge limitations at outfall 001. This evaluation shall be based on a minimum of 12 months of sampling data.

B. Whole Effluent Toxicity and Other Biological Requirements

1. Acute Toxicity

Not applicable to this permit.

2. 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 20% and the following test concentrations: 0% (control), 5%, 10%, 20%, 40% and 80% 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. This permit may be reopened to reduce the monitoring frequency for Whole Effluent Toxicity (WET) from monthly to quarterly if 12 months of data indicate that the

combined discharge of both units, with respect to WET, does not cause, have the reasonable potential to cause or contribute to a water quality violation in accordance with Regulation 61-9.122.44(d) and the modification is in accordance with Regulation 61-9.122.62 .

C. Groundwater Requirements

Not applicable to this permit.

D. Sludge Requirements

1. The permittee shall apply in writing to the DHEC/Bureau of Water requesting written approval for sludge disposal. A letter of acceptance from the facility that will accept the sludge 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 develop and 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 notify the South Carolina Department of Health and Environmental Control in writing no later than ninety (90) days prior to placing Ninety-Nine Islands hydroelectric power turbine units #5 and #6 in service. The notification shall include information, such as revised modeling and a revised mixing zone request, that can be used to determine if revised permit limitations are necessary for temperature or whole effluent toxicity at outfall 001.
6. Confirmatory Sampling of Computational Fluid Dynamics Modeling
 - a. To confirm the accuracy of the computational fluid dynamics modeling that was used to support the thermal and toxicity mixing zone requests, within one year of the effective date of this permit, the permittee shall submit for Department approval a plan for confirmatory monitoring. The plan shall address confirmatory monitoring for temperature. Due to the similarities between the thermal modeling and toxicity modeling, the Department will consider the confirmation of the thermal mixing zone modeling to also serve to confirm the toxicity modeling. The plan shall address the following elements:
 - (1) Temperature monitoring methods, locations, and schedule.
 - (2) Summer conditions monitoring to verify $>90^{\circ}\text{F}$ temperature plume does not extend beyond #4 turbine inlet.
 - (3) Winter conditions monitoring to verify $>5^{\circ}\text{F}$ temperature increase plume does not extend beyond #4 turbine inlet.
 - (4) Consideration of timing of monitoring so that modeled scenarios (i.e. river temperature, river flow, discharge volume, and discharge temperature) are captured to the extent practical.
 - b. The permittee shall commence implementation of the approved confirmatory monitoring plan no later than one year after Unit 2 begins commercial operation .
 - c. Within 60 days of completion of the confirmatory monitoring, the permittee shall submit the confirmatory monitoring results in a report to the Department. In addition to the in-stream temperature values to confirm the $>90^{\circ}\text{F}$ plume and $>5^{\circ}\text{F}$ temperature rise plume do not extend to the #4 turbine inlet, the report shall also include corresponding discharge temperatures, up-stream river temperatures unaffected by the discharge, and river flow rates.
7. The permittee shall monitor all parameters consistent with conditions established by this permit on the 1st Monday 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.
9. The permittee shall obtain coverage under the NPDES General Permit for Storm Water Discharges Associated with Industrial Activity prior to discharging storm water associated with industrial activity.

10. The discharge of any waste resulting from the combustion of chemical metal cleaning wastes, toxic wastes, or hazardous wastes to any waste stream which ultimately discharges to waters of the State is prohibited.

11. Cooling Water Intake Structure Requirements

a. The location, design, construction and capacity of the cooling water intake structure must comply with 40 CFR Part 125.80 through 125.89 and Section 316(b) of the Clean Water Act. The intake structure must employ the best technology available and be operated in such a way to minimize adverse environmental impacts associated with the use of the cooling water intake structure. The permittee shall locate, construct and operate the cooling water intake structure in accordance with the NPDES permit application originally submitted in August 2011 with revisions and supplemental information submitted December 22, 2011, April 11, 2012, July 19, 2012, November 14, 2012, January 10, 2013, and January 23, 2013. The permittee shall at all times properly operate and maintain all intake equipment. No change in the location, design, capacity and/or operation of the intake structure can be made without prior approval from the Department. A change in design includes, but is not limited to, a change in a parameter (e.g. wire size) of the through-screen velocity calculations.

b. Implementation of Technology Requirements

- (1) Each intake flow shall be reduced to a level commensurate with that which can be attained by a closed-cycle recirculating cooling water system using minimized makeup and blowdown flows.
- (2) The cooling water intake structures at the facility, which are identified in Figure A-12 attachment A of this permit, shall be constructed to a maximum through-screen velocity of 0.5 fps.
- (3) To minimize impingement mortality and entrainment, the permittee shall install fine mesh intake screens (2.45 millimeter opening for traveling screens and 2.0 millimeter opening for cylindrical screens) as specified in the application. If information becomes available indicating coarse mesh screens (5.1 millimeter opening for traveling screens and 10 millimeter opening for cylindrical screens) as specified in the application are better technology for the facility's cooling water intake structures, the permittee has the option of submitting a written request to the Department that justifies the use of coarse mesh screens as superior to fine mesh screens and obtaining Department approval prior to installing the coarse mesh screens.

c. Monitoring Requirements

(1) Biological Monitoring

The permittee shall monitor both impingement and entrainment of the commercial, recreational, and forage base fish and shellfish species identified in the Source Water Baseline Biological Characterization required by 40 CFR 122.21(r)(3). The permittee shall conduct monitoring in accordance with the following procedures upon startup of operation of the cooling water intake structure:

- (a) The permittee shall collect samples to monitor impingement rates (simple enumeration) for each species over a 24-hour period and no less than once per month when the cooling water intake

structure is in operation.

- (b) During the months of February through September, the permittee shall collect samples to monitor entrainment rates (simple enumeration) for each species over a 24-hour period and no less than twice per calendar month with sampling events performed at least seven days apart. Samples shall be collected only when the cooling water intake structure is in operation.

Biological monitoring shall occur throughout the permit term at the specified frequencies unless this permit is modified to allow less frequent sampling based on a written request by the permittee following no less than two years of monitoring.

(2) Velocity Monitoring

The permittee shall monitor head loss across the screens and correlate the measured value with the design intake velocity. The head loss across the intake screens must be measured at the minimum ambient source water surface elevation (best professional judgment based on available hydrological data). The maximum head loss across the screen for each cooling water intake structure must be used to determine compliance with the 0.5 fps performance requirement. When ambient conditions impact the ability of the equipment to measure head loss and the practical quantification limit of the head loss measurement exceeds the corresponding 0.5 fps performance requirement, measurements below the quantification limits shall be deemed to be in compliance. Monitoring shall be conducted daily at startup of the facility for the first two weeks, and at least once per month thereafter.

- (3) Visual inspections of the cooling water intake structure(s) must be conducted weekly, at a minimum, to ensure that intake structure technologies are maintained and operated to ensure that they will continue to function as designed. Inspections may be performed using remote monitoring devices in lieu of visual inspections. Inspections shall only be conducted when the cooling water intake structure is in operation.
- (4) Within twelve (12) months from the effective date of this permit, the permittee shall submit a biological and velocity monitoring plan to the Department. Upon approval by the Department, the permittee shall implement the approved monitoring plan. Changes to an approved monitoring plan must be reviewed and approved by the Department prior to being implemented.

d. Record Keeping Requirements

- (1) The permittee shall keep records of all data used to complete the permit application, supplemental reports and information, and compliance monitoring data specified in Part V.E.11.b above for a period of at least three years from the date of permit issuance.
- (2) The following information shall be submitted to the Department in a yearly status report:
 - (a) Biological monitoring records for each cooling water intake structure required by Part V.E.11.c(1) above;
 - (b) Velocity and head loss monitoring records for each cooling water intake structure required by Part V.E.11.c(2) above; and

(c) Records of visual or remote inspections as required by Part V.E.11.c(3) above.

All annual reports shall be submitted to the Department no later than April 1st of each calendar year, for the period of January 1st through December 31st of the previous calendar year.

e. Upon completion of construction of each of the cooling water intake structures, the permittee shall notify the Industrial Wastewater Permitting Section in the Bureau of Water in order to give Department staff an opportunity to inspect the intake structures prior to the removal of the cofferdams or the flooding of the intakes.

f. Alternative Requirements

(1) The permittee shall not operate the drought contingency section of the river intake during the months of March, April, May, or June. The drought contingency section of the river intake includes the four upstream bays housing the 50 cfs pumps.

(2) For each day the river intake is in operation, the permittee shall limit the withdrawal rates from the primary and drought contingency sections of the river intake in accordance with the following criteria. The primary section of the river intake includes the four downstream bays housing the 49 cfs pumps.

(a) The river intake withdrawal limitation is a daily limitation and shall be based on the 24-hour average Broad River flow for each calendar day (12 a.m to 12 a.m.) as measured at the USGS gage 02153500 near Gaffney, S.C. If the Gaffney gage is out of service, data from the USGS gage 02153200 near Blacksburg, S.C. shall be used. If data from the Blacksburg gage is used, flows may be adjusted for the difference in drainage areas.

(b) When the 24-hour average Broad River flow is less than or equal to 483 cubic feet per second (cfs) for a particular day, the river intake shall not be used on that day other than for the withdrawal of non-consumptive river water from the primary intake section. Non-consumptive river water consists of screen washwater, cooling tower blowdown, and other miscellaneous wastewaters that are discharged through outfall 001. The 24-hour average flow of the withdrawal (measured after screen washwater is removed) shall not exceed the 24-hour average calculated flow of outfall 001.

(c) When the 24-hour average Broad River flow is greater than 483 cfs for a particular day, the river intake may be used on that day to withdraw non-consumptive river water (as defined in Part V.E.11.f(2)(b)) plus the amount by which the 24-hour average Broad River flow for that day exceeds 483 cfs. The design intake flows of 98 cfs for the primary section and 206 cfs for the drought contingency section may not be exceeded.

(d) After the commencement of the operation of the cooling water intake structures, the permittee shall maintain daily records on-site that document compliance with these requirements and make the information available to the Department upon request. These records shall include the following information:

- (i) The 24-hour average Broad River flow for each day
- (ii) The USGS gage that was used to determine the Broad River flow

- (iii) The withdrawal rates in cfs of the primary section and the drought contingency section of the river intake measured after the removal of screen washwater
- (iv) The calculated flow rate of outfall 001.

12. Construction in Navigable Waters Requirements

Pursuant to R. 19-450, these requirements apply to the construction and placement of the cooling water intake structure, discharge pipe, and discharge diffuser in the Broad River.

- a. The permittee must implement best management practices that will minimize erosion and migration of sediments on and off the project site during and after construction. These practices should include the use of appropriate grading and sloping techniques, mulches, hay bales, silt fences, or other devices capable of preventing erosion, migration of sediments, and bank failure.
- b. All necessary measures must be taken to prevent oil, tar, trash, debris, and other pollutants from entering the adjacent waters or wetlands.
- c. Once the project is initiated, it must be carried to completion in an expeditious manner in order to minimize the period of disturbance to the environment. Upon project completion, all disturbed areas must be permanently stabilized with vegetative cover, riprap, or other erosion control methods as appropriate.
- d. Upon project completion, all disturbed riverbed areas not designated as permanent impact zones will be restored as close as possible to their original contours and conditions.
- e. The permittee must install and maintain in good order navigational buoys, markers, or signs around or on the intake structures for boater safety.

13. Fish Community and Macroinvertebrate Monitoring

Beginning one year prior to the start of operation of Unit 1 and continuing for five years after start-up of Unit 2, the permittee shall conduct the annual fish community sampling and macroinvertebrate sampling as agreed to between the permittee and the S.C. Department of Natural Resources and specified in the documents entitled "Fish Investigation in Support of WS Lee III Nuclear Station Units 1 and 2 June 2013" and "Macroinvertebrate Investigation in Support of WS Lee III Nuclear Station Units 1 and 2 June 2013". All results will be available to state and federal agencies upon request.

Attachment A

Figure A-12 from NPDES Permit Application

Ponds A, B, and C Intake Locations

