

# PUBLIC NOTICE

## Proposed Wastewater Discharge Renewal Permit SC0047953



Bureau of Water

**NOTICE NUMBER/DATE:** 13-028-R/February 25, 2013

**APPLICANT:** AVX Corporation

**PROJECT/LOCATION:** AVX Corporation/Myrtle Beach Plant/801 17<sup>th</sup> Avenue South, Myrtle Beach, SC, Horry County

**NOTICE PURPOSE:** Proposal to reissue NPDES Permit (Permit # SC0047953).

**PERMIT SUMMARY:** The Department of Health & Environmental Control (DHEC) regulates the discharge of pollutants to waters in South Carolina via an NPDES permit. This permit regulates discharges of treated groundwater via spray irrigation on the AVX property and via one discharge point to Withers Swash.

**HOW TO COMMENT?** Provide written comments to DHEC no later than close of business Wednesday, March 27, 2013. Forward comments to Brett Caswell (note notice # 13-028-R): SCDHEC/Bureau of Water, 2600 Bull Street, Columbia, SC 29201 or [caswelbm@dhec.sc.gov](mailto:caswelbm@dhec.sc.gov).

**MORE INFO?** DHEC's AVX webpage (<http://www.scdhec.gov/environment/avx/index.asp>) has a link to information about this project. AVX's NPDES permit application is available for review at the above web address (under the 'Permits & Compliance' tab) and copies of the file can be made for a fee by contacting our Freedom of Information Office (2600 Bull Street, Columbia, SC 29201, 803-898-3882). Finally, public notice information, including a copy of the draft NPDES permit and fact sheet, can be found at our web site at: [http://www.scdhec.gov/environment/water/PN\\_npdesTemp.htm](http://www.scdhec.gov/environment/water/PN_npdesTemp.htm).

DHEC's points of contact are:

- Richelle Tolton, Community Liaison, [toltonrd@dhec.sc.gov](mailto:toltonrd@dhec.sc.gov), (843) 953-0173
- Brett Caswell, Permitting, [caswelbm@dhec.sc.gov](mailto:caswelbm@dhec.sc.gov), 803-898-4396

**SPECIAL NOTES:** All people submitting written comments 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. If there is a significant amount of public interest, DHEC may schedule a public hearing. Requests for a public hearing may be made in writing to Brett Caswell.

Please note that the Bureau of Air Quality has issued a public notice for their draft permit, as well. Additionally, there will be a community meeting regarding the AVX facility; updating people on air, water, and groundwater issues:

### MEETING DETAILS:

- DATE: March 14, 2013
- LOCATION: Fire Station No. 3, 2108 South Kings Highway, Myrtle Beach, SC 29577
- TIME: 5:30-6:00 PM Meet & Greet (Opportunity to ask individual questions)  
6:00 PM DHEC Presentations (Air Quality, Water, & Land & Waste)
- Any individuals with disabilities or special needs who wish to participate in this meeting or review the Department's files on this permit should contact the person(s) listed above two weeks before the meeting date to discuss any special aids or services required.



# ***National Pollutant Discharge Elimination System and Land Application Permit***

This Permit Certifies That

***AVX Corporation***

has been granted permission to discharge wastewater and land apply wastewater  
from a facility located at

***805 17th Avenue South  
Myrtle Beach, SC  
Horry County***

to receiving waters named

***Withers Swash***

and

***7 Acres on the facility property***

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) and Regulation 61-9.

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

***Issue Date:***

***Expiration Date:***

***Effective Date:***

***Permit No.: SC0047953***

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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. "Application frequency" means the number of days per week that wastewater or sludge is applied to the land.
- C. "Application period" means the length of time per day that wastewater or sludge is applied to the land.
- D. "Application rate" may be used for hydraulic loading.
- E. The "average" or "arithmetic mean" of any set of values is the summation of the individual values divided by the number of individual values.
- F. "Background groundwater analysis" means the chemical or biological quality of groundwater before application of wastewater or sludge, or the groundwater chemistry or biological quality of up-gradient to the site of concern.
- G. "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.
- H. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
- 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. "Down gradient" means the portion of the water table that is down the hydraulic slope of the water table with respect to a specific area or point of reference.
- 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. "Hydraulic loading" means the rate at which liquid is applied to the land per unit area.
- S. "Land application" is the spraying or spreading of industrial sludge onto the land surface; the injection of industrial sludge below the land surface; or the incorporation of industrial sludge into the soil so that the industrial sludge can either condition the soil or fertilize crops or vegetation grown in the soil.
- T. 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.
- U. "Metals" means the following elements: Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Molybdenum (Mo), Nickel (Ni), Selenium (Se), and Zinc (Zn).
- V. "Monitoring well" means any well used to sample groundwater for water quality analysis or to measure groundwater levels.

- W. 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 individual loading determinations made during the month.
- 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. “Runoff” is rainwater, leachate or other liquid that drains overland on any part of a land surface and runs off the land surface.
- CC. “Seasonal high water table” means the highest water table as determined in the soil profile by the encountered indications of soil mottling or iron concentrations or by measuring seasonal fluctuations of the water table in a water table well over a period acceptable to the Department.
- DD. “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.
- EE. “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.
- FF. “Spray field” means a specified area where properly treated wastes, treated effluent from process, agricultural or domestic wastewater, sewage sludge, industrial sludge or other sources is applied to the land. The terms “application area,” “application site” or “spray disposal area” may also be used.
- GG. “Up-gradient” means the portion of the water table that is up the hydraulic slope of the water table with respect to a specific area or point of reference.

- HH. "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.
- II. "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.
- JJ. "Water table" means the level below the land surface at which all the voids are filled with water at a pressure equal to the atmospheric pressure. The depth to the water level in the ground is to be measured at least 24 hours after encountering it in a well.
- KK. "Weekly average" is the arithmetic mean of all the samples collected during a one-week period. For self-monitoring purposes, weekly periods in a calendar month are defined as three (3) consecutive seven-day intervals starting with the first day of the calendar month and a fourth interval containing seven (7) days plus those days beyond the 28th day in a calendar month. The value to be reported is the single highest of the four (4) weekly averages computed during a calendar month. The weekly average loading is the arithmetic average of all daily discharges made during the week.

## **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. 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, except as noted in II.E.5 below. 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. The Department is granting an exception to the daily operator requirement as it pertains to the groundwater stripper. In accordance with Regulation 61-9.122.41(e)(3)(ii)(C), reduced inspection frequency on weekends when the facility is not in production will be suitable if there is complete telemetry of operating data and there is either a simple treatment system with a low potential for toxicity but requiring pumps or other electrical functions or the ability to stop the discharge for an appropriate period when necessary. On weekends when the facility is not in production, in lieu of having a Grade B operator present at the site, the automated protection measures detailed in the October 14, 2011 addendum to the permit reissue application shall be fully implemented.
6. 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.

#### 7. 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 DHEC's Division of Laboratory Certification 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 DHEC's Division of Laboratory Certification 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 Monitoring, Assessment and Protection Division  
Groundwater 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:

$\alpha$ BHC	Mercury
$\beta$ BHC	Mirex
$\delta$ 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:

- DRAFT**
- 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 µg/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 48-1-350.

P. Other Requirements

1. Effluent application shall not occur during periods when the ground is frozen, ponded or there is standing water on the application site, or the ground is flooded.
2. There shall be no runoff of any effluent, sludge, treated waste or mixture of pollutants outside the permitted area.

**Part III. Limitations and Monitoring Requirements**

**A. Effluent Limitations and Monitoring Requirements**

1. 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: Internal outfall – treated water after groundwater stripper**

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Mass Monthly Average MR <sup>1</sup> MGD	Mass Daily Maximum MR <sup>1</sup> MGD	Concentration Monthly Average	Concentration Daily Maximum	Sampling Frequency	Sample Type
Flow	-	-	-	-	1/month	Flowmeter <sup>1</sup>
Vinyl Chloride	-	-	0.002 mg/l	0.0035 mg/l	1/month	Grab
Methylene Chloride	-	-	0.005 mg/l	0.010 mg/l	1/month	Grab
1,1-Dichloroethylene	-	-	0.004 mg/l	0.006 mg/l	1/month	Grab
Cis-1,2-Dichloroethylene	-	-	0.07 mg/l	0.14 mg/l	1/month	Grab
Trichloroethylene	-	-	0.005 mg/l	0.010 mg/l	1/month	Grab

<sup>1</sup>See Part II.J.1

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): after treatment by the groundwater stripper but prior to mixing with the first on-site storage pond.

**INTERIM LIMITS:**

- During the period beginning on the effective date of this permit and lasting until March 1, 2014, the permittee is authorized to discharge from outfall serial number **002: Treated groundwater from final storage pond**

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		
Duration of Discharge <sup>2</sup>	-	MR <sup>1</sup> , days	-	-	Daily	Calculate
Flow, effluent	MR <sup>1</sup> , MGD	MR <sup>1</sup> , MGD	-	-	1/month	Estimate
pH	-	-	Min 6.5 s.u.; Max 8.5 s.u.	-	1/month	Grab
Biochemical Oxygen Demand (BOD <sub>5</sub> )	-	-	10 mg/l	20 mg/l	1/month	Grab
Vinyl Chloride	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
Methylene Chloride	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
1,1-Dichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
Cis-1,2-Dichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
Trichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab

<sup>1</sup>MR: Monitor and Report

<sup>2</sup>Report the number of days that discharge occurs each month.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): before discharge from the final on-site storage pond.

**FINAL LIMITS:**

- During the period beginning on March 1, 2014 and lasting through the expiration date, the permittee is authorized to discharge from outfall serial number **002: Treated groundwater from final storage pond**

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		
Duration of Discharge <sup>2</sup>	-	MR <sup>1</sup> , days	-	-	Daily	Calculate
Flow, effluent	MR <sup>1</sup> , MGD	MR <sup>1</sup> , MGD	-	-	1/month	Instantaneous
pH	-	-	-	-	1/month	Grab
Biochemical Oxygen Demand (BOD <sub>5</sub> )	-	-	Min 6.5 s.u.; Max 8.5 s.u.	-	1/month	Grab
Vinyl Chloride	-	-	10 mg/l	20 mg/l	1/month	Grab
Methylene Chloride	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
1,1-Dichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
Cis-1,2-Dichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab
Trichloroethylene	-	-	MR <sup>1</sup> , mg/l	MR <sup>1</sup> , mg/l	1/month	Grab

<sup>1</sup>MR: Monitor and Report

<sup>2</sup>Report the number of days that discharge occurs each month.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): before discharge from the final on-site storage pond.



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 **Land Application of treated groundwater from final storage pond**

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

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS					MONITORING REQUIREMENTS	
	Mass			Concentration		Recording Frequency	Sample Type
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum			
Amount of water applied per acre	MIR gallons/day	MIR <sup>1</sup> gallons/day	-	-	-	Daily	Calculate <sup>2</sup>

<sup>1</sup>MIR: Monitor and Report

<sup>2</sup>The irrigation system has a known flow rate and a series of timers that allows the operator to calculate the amount of water applied via water balance.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location(s): before discharge from the final on-site storage pond.

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

None.

C. Groundwater Monitoring Requirements

No additional monitoring required by this permit. Groundwater at this site continues to be monitored by the Bureau of Land & Waste Management (BLWM).

D. Sludge Monitoring Requirements

None.

E. Soil Monitoring Requirements

None.

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**Part IV. Schedule of Compliance**

A. Schedule(s)

1. For the flow measurement device installation on Outfall 002:

Date Due	Action Required
August 1, 2013	The permittee shall submit three (3) copies of an administratively and technically complete construction permit application (DHEC Form 1970) for an appropriate flow measurement device for the Outfall 002 structure located in Pond #3.
November 1, 2013	The permittee shall begin the installation of the flow measurement device in accordance with the construction permit issued by the Department in response to the above referenced application submittal.
March 1, 2014	The permittee shall obtain an approval to operate for the flow measurement device constructed in accordance with the above referenced permit.

- 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.

### B. Whole Effluent Toxicity and Other Biological Requirements

1. Acute Toxicity: None.
2. Chronic Toxicity: None.
3. Instream Macroinvertebrate Assessment: None.

### C. Groundwater Requirements: None, except as specified by the BLWM.

### D. Sludge, Soil and Other Land Application Requirements

#### Land Application of Wastewater

1. Treated wastewater shall not be applied to the buffer areas of the land application site. Also, treated wastewater shall not be applied to land that is ten (10) meters or less from Waters of the State.
2. The following conditions of the spray site operation are to be maintained:
  - a. The applied effluent is not to exceed 3,857 gallons per day per acre.
  - b. Effluent is to be applied over the entire spray site on a daily basis.
3. Spray field slopes shall not exceed 10 percent unless approved by the Department. The Department may require that slopes be less than 10% based on site conditions.
4. Effluent distribution systems shall be designed so that the distribution pattern maximizes uniform application. The Department may require the permittee to modify existing land application site(s) distribution systems based on site conditions (e.g., potential for ponding, runoff, or discharges to open ditches).
5. The design application frequency for effluent irrigation shall not exceed a spray to rest ratio suitable for the soil conditions. A spray to rest ratio of 1:20 shall be used unless an alternative rate is approved by the Department. The application frequency for other activities (such as sludge or septage application) would be determined on a site-specific basis.

6. The application site shall be divided into designed spray areas to meet this spray to rest ratio and a continuous application period per defined spray area shall be designed not to exceed 1.2 hours per day, or up to 8 consecutive hours per week (only under those limited conditions when excessive rainfall on the application sites requires application in one day).
7. There shall be no runoff of any effluent, sludge, treated waste or mixture of pollutants outside of the treated area.
8. Application of effluent shall not occur during periods when the ground is frozen, ponded, there is standing water on the application site, or when the ground is flooded.

E. Other Conditions

1. The permittee shall maintain an all weather access road to the wastewater treatment plant, land application areas, and appurtenances at all times.
2. The wastewater treatment plant shall be assigned a classification of Group III-Physical/Chemical. This classification corresponds to an operator with a Grade of B-Physical/Chemical.
3. The permittee shall monitor all parameters consistent with conditions established by this permit on the 1st Thursday 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. If there is no discharge during the entire reporting period, report "no discharge" for all parameters. Additional monitoring as necessary to meet the frequency requirements of this permit shall be performed by the permittee.
4. All waste oil and solid and hazardous waste shall be disposed of in accordance with the rules and regulations of SCDHEC's Bureau of Land and Waste Management.
5. The permittee shall update 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.
6. If acid is used to remedy iron fouling in the air stripper system, the Regional office shall be notified prior to starting and the process is to be recorded in a log maintained on-site for DHEC review. Daily pH samples are to be taken during the first week of discharge following the use of acid and reported on the next DMR.

7. The permittee shall take all practicable measures to ensure that the discharge of wastewater authorized by this permit does not result in sediment and erosion control problems from the point of discharge to the point of mixing with the receiving stream.

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FACT SHEET  
AND  
PERMIT RATIONALE



New Industrial Facility  
NPDES Permit No. SC0047953

Permitting Engineer: Brett M. Caswell

February 21, 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: 801 17<sup>TH</sup> Avenue South, Myrtle Beach, SC 29578

County: Horry

Watershed: Basin 04 (Pee Dee Basin)

Facility Description (include SIC code): This facility manufactures ceramic capacitors for the electronics industry.  
SIC Code is 3675.

Receiving Waters and Classification by outfall: 001 - Internal Outfall from Groundwater Stripper; 002 - Withers Swash (FW/SW) or spray irrigation

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: WAC-022A (Enterococcus); 03-01 (Shellfish)

Is any discharge to a waterbody or for a parameter listed in an approved TMDL? No.

If Yes, list the parameter(s) for which the TMDL is written and the waterbody segments impacted: N/A

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.

Coordination with DHEC's Shellfish Sanitation Section for SFH or SA/SB waters for existing and classified uses has been conducted.

Does any discharge have the potential to affect a threatened or endangered species? There are no known endangered species in this area (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 adversely 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 with an average flow exceeding 0.5 MGD
- Permits for federal facilities with a daily average discharge exceeding 0.05 MGD
- Priority permits
- Permits in 12-digit HUC priority watersheds of interest to EPA
- 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)
- Modification to any permit where the schedule of compliance interim dates are extended more than once

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
Attachment 4	Effluent Guidelines

## I. PERMIT LIMITATIONS AND MONITORING REQUIREMENTS

### Outfall 001

~~Description of outfall, receiving water and wastewater treatment system: AVX Corporation/Myrtle Beach Plant manufactures electronic components. The discharge from the facility consists of treated groundwater from DPW-4. Outfall 001 is an internal outfall located on the facility property. Because of past contamination issues, AVX is required by the Department to collect and treat their groundwater by means of a 100 gpm tray air stripper which was recently upgraded/replaced as per Construction Permit 19374-IW issued on March 31, 2010. The treated groundwater is pumped to the first of three storm water ponds, at which point the facility exercises one of two options: a) They irrigate up to 7 acres of property located on-site, at an application rate of up to 3,857/gallons per day (gpd) per acre; b) when spray irrigation is not possible, the treated groundwater will flow through each of the storm water ponds, and be discharged to Outfall 002, which leads to a ditch and eventually to Withers Swash (Class SFH).~~

Operator requirements: Based on the treatment system described above and the Pollution Control Act (PCA), the treatment system is classified as Group III-Physical/Chemical. The Environmental Certification Board Rules require that a Grade of B-Physical/Chemical operator be assigned to operate this facility. Inspections of the facility were previously required on a daily basis per Regulation 61-9.122.41(e). However, the Department is granting an exception to the daily operator requirement as it pertains to the groundwater stripper based upon a request from the facility. In accordance with Regulation 61-9.122.41(e)(3)(ii)(C), reduced inspection frequency may be suitable if there is complete telemetry of operating data and there is either a simple treatment system with a low potential for toxicity but requiring pumps or other electrical functions or the ability to stop the discharge for an appropriate period when necessary. For weekends when the facility is not in production, in lieu of having a Grade B operator present at the site, the automated protection measures detailed in the October 14, 2011 addendum to the permit reissue application shall be fully implemented.

Specifically, the facility will ensure the following takes place on the days the facility is not in production:

\* Monitoring Pressure on Trays: The pressure differential system monitors the cleanliness of the trays located in the stripper to monitor conditions that may reduce the system's efficiency. If for any reason the system senses a higher than normal pressure, the system will send a signal to the controller and the stripper will go into a high pressure alarm mode. While this will not shut the system down, it will give the operator a call indicating that the trays will need cleaning soon. Under any alarm modes the stripper is equipped with an auto-dialer system and will call the responsible individual(s) needed to correct the system. At no time can the system automatically reset itself; this is a manual process that can only occur after the system has been cleaned. It should also be noted that the recovery well cannot be turned back on until the blower located in the stripper is operating.



\* **Monitoring Air Stripper Water Sump Level:** The stripper has a water sump located at the base of the stripper that holds treated groundwater. From that sump the treated water is pumped from the stripper to the discharge pond. In the event there is a malfunction of that sump pump, the system is equipped with a sump high level switch that will put the system in an alarm mode and shut down the recovery well and the stripper. In this alarm mode, all systems will shutdown and cannot be restarted without correcting the problem and restarting the system manually. The system will again automatically call the responsible person(s) and report the malfunction as well as the source of the malfunction (high sump level, in this case).

\* **Treatment of Chemical Feed:** The system is equipped with level controls in the chemical feed system. If the feed chemicals in the reservoir tank drop below the desired level, the groundwater pump and stripper will shutdown. If the system shuts down due to low levels in the treatment chemical tank, then the system will need to be manually started after the treatment chemical level has been corrected. The system will automatically call the responsible person(s) and report the nature of the malfunction.

Information for this outfall is based on NPDES Permit Application: 2C dated December 15, 2010

Data from Discharge Monitoring Reports (DMRs) and NPDES permit application (including all subsequent data presented) from 3/1/2007 - 6/30/2011 has been used to evaluate permit limitations. Previous permit limits are based on the permit (or modification) with an effective date of 3/1/2007.

This outfall does not have the potential to affect an existing or proposed surface water drinking water source or any state-approved source water protection area (SWPA). 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: MR
  - Daily Maximum: MR
  - Sampling Frequency: 1/month
  - Sample Type: Estimate
2. NPDES Application: (No. of flow analyses: 58)
  - Maximum Daily Value: 0.0884 MGD
  - Maximum 30 Day Value: 0.0659 MGD
  - Long Term Avg Value: 0.0455 MGD
3. DMR Data: The highest flow was reported on 9/30/07 as 0.2467 MGD
4. Actual long term average flow (from DMR and/or application): 0.0455 MGD
5. Conclusion: The above data was for the old flow prior to the increase permitted under 19615-IW. New flow is estimated to be 144,000 gpd. Actual monitoring should confirm this figure.
  - Monthly average: MR
  - Daily maximum: MR
  - Sampling Frequency: 1/month
  - Sampling Type: Estimate (see Part II.J.1 of the reissue permit)

#### **Vinyl Chloride**

1. Previous permit limits:
  - Monthly average: 0.002 mg/l
  - Daily maximum: 0.004 mg/l
  - Sampling frequency: 1/month

Sample type: Grab

- NPDES Application: (# of analyses: 62)  
Maximum Daily Value: 0.039 mg/l (0.01641 lb/d)  
Maximum 30 Day Value: 0.039 mg/l (0.01641 lb/d)  
Long Term Avg Value: 0.00166 mg/l (0.0007 lb/d)
- DMR Data: The highest value was reported on 3/31/09 as 0.039 mg/l
- Water Quality Data: see spreadsheet
- Other Information: Not applicable for this discharge.
- Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
- Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
- PQL: 2 µg/l
- Conclusion: The limits for vinyl chloride will be imposed in accordance with the previous permit, and will ensure that the current treatment level will be maintained. The limits for the daily maximum for this pollutant appear to have been rounded to 1 significant figure in the previous permit, but they have been restored to 2 significant figures in order to match the water quality spreadsheet (i.e. to protect water quality).

Monthly average: 0.002 mg/l

Daily maximum: 0.0035 mg/l

Sampling Frequency: 1/Month

Sample type: Grab

#### Trichloroethylene

- Previous permit limits:  
Monthly average: 0.005 mg/l  
Daily maximum: 0.010 mg/l  
Sampling frequency: 1/month  
Sample type: Grab
- NPDES Application: (# of analyses: 62)  
Maximum Daily Value: 0.16 mg/l (0.06733 lb/d)  
Maximum 30 Day Value: 0.16 mg/l (0.06733 lb/d)  
Long Term Avg Value: 0.00399 mg/l (0.0016 lb/d)
- DMR Data: The highest value was reported on 3/31/09 as 0.16 mg/l
- Water Quality Data: see spreadsheet
- Other Information: Not applicable for this discharge.
- Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
- Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
- PQL: 2 µg/l
- Conclusion: The limits for trichloroethylene will be imposed in accordance with the previous permit. This will ensure that the current treatment will be maintained.

Monthly average: 0.005 mg/l

Daily maximum: 0.010 mg/l

Sampling frequency: 1/month

Sample type: Grab

#### Methylene Chloride

- Previous permit limits:  
Monthly average: 0.005 mg/l  
Daily maximum: 0.010 mg/l  
Sampling frequency: 1/month  
Sample type: Grab
- NPDES Application: (# of analyses: 62)  
Maximum Daily Value: 0.0049 mg/l  
Maximum 30 Day Value: 0.00106 mg/l

3. DMR Data: The values reported were all less than 0.002 mg/l
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable for this discharge.
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
8. PQL: 2 µg/l
9. Conclusion: The limits for methylene chloride will be imposed in accordance with the previous permit. This will ensure that the current treatment will be maintained.  
Monthly average: 0.005 mg/l  
Daily maximum: 0.010 mg/l  
Sampling frequency: 1/month  
Sample type: Grab

### **1,1-Dichloroethylene**

1. Previous permit limits:  
Monthly average: 0.004 mg/l  
Daily maximum: 0.006 mg/l  
Sampling frequency: 1/month  
Sample type: Grab
2. NPDES Application: (# of analyses: 62)  
Maximum Daily Value: 0.0024 mg/l  
Maximum 30 Day Value: 0.00099 mg/l
3. DMR Data: The values reported were all less than 0.002 mg/l
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable for this discharge.
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
8. PQL: 2 µg/l
9. Conclusion: The limits for 1,1-Dichloroethylene will be imposed in accordance with the previous permit. This will ensure that the current treatment will be maintained.  
Monthly average: 0.004 mg/l  
Daily maximum: 0.006 mg/l  
Sampling frequency: 1/month  
Sample type: Grab

### **Cis-1,2-Dichloroethylene**

1. Previous permit limits:  
Monthly average: 0.07 mg/l  
Daily maximum: 0.14 mg/l  
Sampling frequency: 1/month  
Sample type: Grab
2. DMR Data: (# of analyses: 50)  
Maximum Daily Value: 0.3 mg/l  
Maximum 30 Day Value: 0.00668 mg/l
3. Water Quality Data: see spreadsheet
4. Other Information: Not applicable for this discharge.
5. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No
6. Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
7. PQL: 2 µg/l
8. Conclusion: The limits for Cis-1,2-Dichloroethylene will be imposed in accordance with the previous permit. This will ensure that the current treatment will be maintained.  
Monthly average: 0.005 mg/l

Daily maximum: 0.010 mg/l  
Sampling frequency: 1/month  
Sample type: Grab

### **Outfall 002**

Description of outfall, receiving water and wastewater treatment system: See description for Outfall 001; AVX utilizes this outfall when spray irrigation is not possible, and the treated groundwater flows through each of the storm water ponds, and be discharged to a ditch and eventually to Withers Swash (Class SFH).

Operator requirements: N/A for this outfall.

Information for this outfall is based on NPDES Permit Application: 2C dated December 15, 2010

Data from Discharge Monitoring Reports (DMRs) was not available for analysis since this outfall is newly defined in this permit reissue. Data from the NPDES permit application (including all subsequent data presented) has been used to evaluate permit limitations. The facility will be required to monitor & report monthly for all pollutants for which there is reasonable potential (RP) in the reissued permit.

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: None, as this is a newly defined outfall.
2. NPDES Application: (No. of flow analyses: 1)  
Maximum Daily Value: 0.144 MGD  
Maximum 30 Day Value: 0.144 MGD  
Long Term Avg Value: 0.144 MGD
3. DMR Data: Not applicable.
4. Actual long term average flow: Unknown.
5. Conclusion: Flow monitoring will be established at this outfall, as it has previously in Outfall 001. However, this discharge is described as intermittent in the 2C application. Regulation 61-9 also states that any discharge described as intermittent or seasonal must describe the frequency, duration and flow rate of each discharge occurrence. In order to determine just how "intermittent" the discharge really is, the Department will include a requirement to report the number of days the discharge occurs each month.  
Monthly average: MR  
Daily maximum: MR  
Sampling Frequency: 1/month  
Sampling Type: Estimate (see Part II.J.1 of the reissue permit)

### **pH**

1. Previous Permit Limits: 6.5 to 8.5 standard units.  
Sampling Frequency: 1/month  
Sample type: Grab
2. NPDES Application: (# of analyses: 44)  
Maximum Daily Value: Min: 8.01 su, Max: 8.88 su  
Maximum 30 Day Value: Min: 8.25 su, Max: 8.67 su
3. DMR Data: The lowest pH was 6.5 and reported on 2/28/09; the highest pH was 8.6 and reported on 12/31/09
4. Water Quality Data: Water quality standards for pH are established in Reg. 61-68.G for shellfish harvesting waters as between 6.5 and 8.5.

5. Effluent limitation guidelines: Not applicable for this discharge.
6. Other information: Not applicable.
7. PQL: Not applicable
8. Conclusion: pH should be between 6.5 and 8.5  
Sampling Frequency: 1/month  
Sample type: Grab

#### **Biochemical Oxygen Demand (BOD<sub>5</sub>)**

1. Previous permit limits (from Outfall 001; this parameter is now to be measured at this outfall):  
Monthly average: 10 mg/l  
Daily maximum: 20 mg/l  
Sampling frequency: 1/month  
Sample type: Grab
2. NPDES Application: (# of analyses: 57)  
Maximum Daily Value: 11 mg/l (3.876 lb/d)  
Maximum 30 Day Value: 11 mg/l (3.876 lb/d)  
Long Term Avg Value: 1.566 mg/l (0.628 lb/d)
3. DMR Data: The highest BOD<sub>5</sub> was 14.5 reported on 2/28/11
4. Effluent limitations guidelines: Not applicable for this discharge.
5. PQL: 2000 µg/l
6. Waste Load Allocation  
Monthly Average: 10 mg/l
7. Other information: Not applicable.
8. Conclusion: The limits for BOD<sub>5</sub> will be imposed in accordance with Outfall 001 of the previous permit.  
Monthly average: 10 mg/l  
Daily maximum: 20 mg/l  
Sampling frequency: 1/month  
Sample type: Grab

#### **Vinyl Chloride**

1. Previous permit limits: None, as this is a newly defined outfall.
2. NPDES Application: (# of analyses: 1)  
Maximum Daily Value: < 0.002 mg/l  
Maximum 30 Day Value: Not applicable.  
Long Term Avg Value: Not applicable.
3. DMR Data: Not applicable.
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: Not applicable for this discharge.
8. PQL: 2 µg/l
9. Conclusion:  
Monthly average: MR  
Daily maximum: MR  
Sampling Frequency: 1/month  
Sample type: Grab

#### **Trichloroethylene**

1. Previous permit limits: None, as this is a newly defined outfall.
2. NPDES Application: (# of analyses: 1)  
Maximum Daily Value: < 0.002 mg/l  
Maximum 30 Day Value: Not applicable.

Long Term Avg Value: Not applicable.

3. DMR Data: Not applicable.
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: MR is appropriate to gather data, since this is a newly defined outfall
8. PQL: 2 µg/l
9. Conclusion:
  - Monthly average: MR
  - Daily maximum: MR
  - Sampling Frequency: 1/month
  - Sample type: Grab

#### **Methylene Chloride**

1. Previous permit limits: None, as this is a newly defined outfall.
2. NPDES Application: (# of analyses: 1)
  - Maximum Daily Value: < 0.002 mg/l
  - Maximum 30 Day Value: Not applicable.
  - Long Term Avg Value: Not applicable.
3. DMR Data: Not applicable.
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: MR is appropriate to gather data, since this is a newly defined outfall
8. PQL: 2 µg/l
9. Conclusion:
  - Monthly average: MR
  - Daily maximum: MR
  - Sampling Frequency: 1/month
  - Sample type: Grab

#### **Cis-1,2-Dichloroethylene**

1. Previous permit limits: None, as this is a newly defined outfall.
2. NPDES Application: (# of analyses: 1)
  - Maximum Daily Value: < 0.002 mg/l
  - Maximum 30 Day Value: Not applicable.
  - Long Term Avg Value: Not applicable.
3. DMR Data: Not applicable.
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: MR is appropriate to gather data, since this is a newly defined outfall
8. PQL: 2 µg/l
9. Conclusion:
  - Monthly average: MR
  - Daily maximum: MR
  - Sampling Frequency: 1/month
  - Sample type: Grab

**1,1-Dichloroethylene**

1. Previous permit limits: None, as this is a newly defined outfall.
2. NPDES Application: (# of analyses: 1)
  - Maximum Daily Value: < 0.002 mg/l
  - Maximum 30 Day Value: Not applicable.
  - Long Term Avg Value: Not applicable.
3. DMR Data: Not applicable.
4. Water Quality Data: see spreadsheet
5. Other Information: Not applicable
6. Does the discharge cause, have the Reasonable Potential to Cause or Contribute: No.
7. Effluent limitations guidelines (ELGs) and professional judgment-based limits: MR is appropriate to gather data, since this is a newly defined outfall
8. PQL: 2 µg/l
9. Conclusion:
  - Monthly average: MR
  - Daily maximum: MR
  - Sampling Frequency: 1/month
  - Sample type: Grab

**Biological Monitoring Requirements**

N/A

**Groundwater Monitoring Requirements**

None, except as specified by the BLWM.

**Threatened and Endangered Species Information**

N/A

**Land Application of Wastewater:** Specific limitations for land irrigation are specified in Part V.D of the reissued permit, and are based upon a review of the latest version of SC Regulation 61-9 (February 2011). Treated groundwater is pumped from one of three storm water ponds before being sprayed onto specific approved acreage (approximately 7 acres) on the facility's property and the effluent is sprayed with an application rate of approximately 3,857 gpd/acre (1 inch/week). During times when spray irrigation is not possible due to seasonal changes, facility production, etc. the treated groundwater will discharge through Outfall 002.

**Whole Effluent Toxicity (WET):** In accordance with Regulation 61-9.122.44(d)(1)(v), since chemical-specific limitations are specified for the pollutants of concern, WET testing is not necessary in this permit.

**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 (BOD<sub>5</sub>), 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 (BOD<sub>5</sub>), Ultimate Oxygen Demand (UOD), Dissolved Oxygen (DO):

Effluent limits for conventional oxygen demanding constituents (BOD<sub>5</sub>, 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. BOD<sub>5</sub> 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, BOD<sub>5</sub> 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 ( $C_{eff(m)}$ ) 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)
$Q_{7Q10}$	7Q10 or other critical flow condition of the receiving water at the SWP Area boundary in mgd.
$AAF_d$	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 ( $Q_{7Q10}$ ) 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.

$$DF_3 = \left( \frac{Q_{\text{receptor}} + Q_d}{Q_d} \right)$$

*DF<sub>3</sub>*: This dilution factor is based on the Average Annual Flow or other critical flow condition (*AAF*) 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.

$$DF_4 = \left( \frac{AAF_1 + Q_d}{Q_d} \right)$$

For both *DF<sub>3</sub>* and *DF<sub>4</sub>*, 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:

- $WQS_a$  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
- $WQS_{oh}$  Receiving water Standard (based on an established criteria or other published data per R.61-68) for protection of Human Health – Organism Consumption
- $WQS_{ohw}$  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.
- $WQS_{dm}$  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.
- $WQS_{od}$  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 ( $C_{oh}$ ), water/organism ( $C_{wo}$ ) and MCL ( $C_{mcl}$ ) data

- $C_w$  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 90<sup>th</sup> 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 ( $C_{aquife}$ )

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

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

- 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.

$$\begin{aligned} \text{monthly average} &= C_{avg} \text{ using CCC as } WQS_{af} \\ \text{daily maximum} &= C_{max} \text{ using CMC as } WQS_{af} \end{aligned}$$

- 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

$$\begin{aligned} \text{monthly average} &= C_{avg} \text{ using CCC as } WQS_{af} \\ \text{daily maximum} &= 2 \times C_{avg} \end{aligned}$$

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

$$\begin{aligned}\text{monthly average} &= C_{\text{app}} \text{ using CMC as } WQS_{\text{df}} \\ \text{daily maximum} &= C_{\text{app}} \text{ using CMC as } WQS_{\text{df}}\end{aligned}$$

- 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.

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

- 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.

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

- 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.

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

- 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 ( $C_{\text{app}}$ ) 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 ( $C_{\text{effluent}}$ ) 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,

$$C_{aqlife} = WQS.$$

If  $C_b$  is based on naturally occurring concentrations and

$$C_b \geq WQS$$

Then, generally,

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

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 in-stream data based on the 5th percentile of ambient TSS data on South Carolina waterbodies from 1993-2000.

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

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

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 ( $C_{aq\ life}$ ) for aquatic life protection are calculated as follows:

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

- 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 ( $C_{aq\ life-adj}$ ) 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:

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

Follow the remaining calculations in #2 above to get an adjusted  $C_{aq\ life}$  value that will be used to determine derived limits.

monthly average =  $C_{aq\ life-adj}$  based on CCC

daily maximum =  $C_{aq\ life-adj}$  based on CMC

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

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

4. Where the Recalculation Procedure is used to adjust a criterion, derived limits for the adjusted aquatic life criterion ( $C_{aq\ life-adj}$ ) 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.

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

monthly average =  $C_{\text{aquatic-life-adj}}$  based on CCC

daily maximum =  $C_{\text{aquatic-life-adj}}$  based on CMC

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

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

monthly average =  $C_{\text{aquatic-life-adj}}$  based on CCC

daily maximum =  $C_{\text{aquatic-life-adj}}$  based on CMC

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 ( $C_{\text{HHS-adj}}$ ). 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 = 95<sup>th</sup> 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  $M$ .

$$M = \frac{e^{(Z_n \sigma - 0.5 \sigma^2)}}{e^{(Z_n \sigma_c - 0.5 \sigma_c^2)}}$$

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 99<sup>th</sup> percentile basis)

$z_o$  = the percentile exceedance probability for the monthly average permit limit (=1.645 for 95<sup>th</sup> percentile basis)

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

- 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 ( $C_{HH}$ ) 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 ( $C_{HH}$ ) 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,

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

## 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:

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

The Daily Maximum is calculated as

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

b. For Non-carcinogens

The Monthly Average is calculated as follows:

$$C_{wo} = (DF_3 \times WQS_{wo}) - \left\{ C_b \times \left( \frac{Q_{7Q10t}}{Q_d} \right) \right\}$$

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:

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

The Daily Maximum is calculated as

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

b. For Non-carcinogens

The Monthly Average is calculated as follows:

$$C_{mcl} = (DF_3 \times WQS_{mcl}) - \left\{ C_b \times \left( \frac{Q_{7Q10t}}{Q_d} \right) \right\}$$

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

$$\text{monthly average} = C_{wa}$$

$$\text{daily maximum} = 2 \times C_{wa}$$

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

monthly average  $C_{std}$  = minimum of derived monthly averages ( $C_{std-1}, C_{std-2}, C_{std-3}, C_{std-4}, C_{std-5}, C_{std-6}, C_{std-7}, C_{std-8}, C_{std-9}, C_{std-10}$ )

daily maximum  $C_{std}$  = minimum of derived daily maximums ( $C_{std-1}, C_{std-2}, C_{std-3}, C_{std-4}, C_{std-5}, C_{std-6}, C_{std-7}, C_{std-8}, C_{std-9}, C_{std-10}$ )

- 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:  $\sigma$  = Standard Deviation of the samples  
 $\mu$  = 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  
 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 95<sup>th</sup> 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 95<sup>th</sup> percentile of the standardized normal distribution = 1.645

$Z_p$  is the standardized Z-score for the  $p^{\text{th}}$  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 ( $RWC$ ).

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

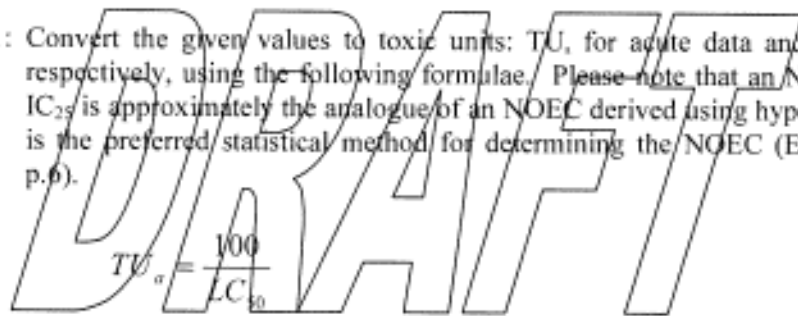
Step 6:  $RWC \leq$  Derived limit ( $C_{DRL}$ ) implies that reasonable potential does not exist.

$RWC >$  Derived limit ( $C_{DRL}$ ) 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).



$$TU_a = \frac{100}{LC_{50}} \quad \text{or} \quad TU_c = \frac{100}{IC_{25}} \quad \text{if } IC_{25} \text{ available}$$

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  $\leq 0.3TU$ , implies that a reasonable potential does not exist  
*RWC* for Acute Toxicity  $> 0.3TU$ , implies that a reasonable potential exists

*RWC* for Chronic Toxicity  $\leq 1.0TU$ , implies that a reasonable potential does not exist  
*RWC* for Chronic Toxicity  $> 1.0TU$ , 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:

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

*ELGlim*: the mass limit, in lbs/day, for an applicable pollutant based on the production

*ELGprod*: 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. Antibacksliding: 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.l).

#### 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 **Melinda Vickers** at 803-898-4186.

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 issuance of this permit by the S.C. Department of Health and Environmental Control (Department) becomes the final agency decision 15 calendar days after notice of the decision has been mailed or otherwise sent 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 the Department by the applicant, permittee, licensee, or affected person. This Department decision relies on the administrative record, which includes the permit rationale and other supporting documentation contained in the permit file.

An applicant, permittee, licensee, or affected person who wishes to appeal this decision must file a timely written request for final review with the Clerk of the Board at the following address or by facsimile at 803-898-3393. A filing fee in the amount of \$100 made payable to SC DHEC must also be received by the Clerk within the time allowed for filing a request for final review. However, if a request for final review is filed by facsimile, the filing fee may be mailed to the Clerk of the Board if the envelope is postmarked within the time allowed for filing a request for final review.

Clerk of the Board  
SC DHEC  
2600 Bull Street  
Columbia, SC 29201

In order to be timely, a request for final review must be received by the Clerk of the Board within 15 calendar days after notice of the decision has been mailed or otherwise sent to persons entitled to receive notice. If the 15th day occurs on a weekend or State holiday, the request is due to be received by the Clerk of the Board on the next working day. The request for final review must be received by the Clerk of the Board by 5:00 p.m. on the date it is due. A request for final review will be returned to the requestor if the filing fee is not received on time as described above.

The request for final review should include the following:

1. The grounds on which the Department's decision is challenged and the specific changes sought in the decision;
2. A statement of any significant issues or factors the Board should consider in deciding whether to conduct a final review conference; and
3. A copy of the Department's decision for which review is requested.

If a timely request for final review is filed with the Clerk of the Board, the Clerk will provide additional information regarding procedures. 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 30 calendar days after notice is mailed that the Board declined to hold a final review conference.

Information pertaining to adjudicatory matters may be obtained by contacting the Legal Office of the Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina or by calling 803-898-3350.

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