



South Carolina Department of Health
and Environmental Control

Land Application Permit

This Permit Certifies That

United States Department of Energy

has been granted permission to land apply sludge from a facility located at

*Savannah River Site
Aiken, SC
Aiken and Barnwell Counties*

to

One sludge land application site totaling approximately 23 acres

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.

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

Issue Date: November 15, 2010

Expiration Date: September 30, 2020

Effective Date: December 1, 2010

Permit No.: ND0072125

Modification Date: July 6, 2015

Table of Contents

PART I. Definitions	3
PART II. Standard Conditions	8
A. Duty to comply	8
B. Duty to reapply	8
C. Need to halt or reduce activity not a defense	8
D. Duty to mitigate	8
E. Proper operation and maintenance	8
F. Permit actions	10
G. Property rights	10
H. Duty to provide information	10
I. Inspection and entry	10
J. Monitoring and records	11
K. Signatory requirement	13
L. Reporting requirements	14
M. Bypass	18
N. Upset	18
O. Misrepresentation of Information	19
P. Other Requirements	19
Part III. Limitations and Monitoring Requirements	20
A. Sludge Monitoring Requirements	20
B. Soil Monitoring Requirements	21
C. Reserved	21
Part IV. Schedule of Compliance	24
A. Schedule(s): NA	24
Part V. Other Requirements	25
A. Groundwater Requirements	25
B. Sludge, Soil and Other Land Application Requirements	25
1. Land Application Requirements	25
2. Site Restrictions	26
3. Management Practices	26
4. Sludge Monitoring Requirements: The requirements of this section apply when sludge is to be land-applied	26
6. Record keeping and Reporting	27
7. Odor Control Requirements	28
C. Other Conditions	29

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. “Agronomic rate” is the application rate designed:
 - 1. To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land.
 - 2. To minimize the amount of nitrogen in the industrial sludge that passes below the root zone of the crop or vegetation grown on the land to the groundwater; and
 - 3. To provide the amount of other organic and inorganic plant nutrients that promote crop or vegetation growth, such as calcium carbonate equivalency.
- C. “Annual pollutant loading rate” is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.
- D. “Annual whole sludge application rate” is the maximum amount of industrial sludge (dry weight) that can be applied to a unit area of land during a 365 day period.
- E. “Application frequency” means the number of days per week that wastewater or sludge is applied to the land.
- F. “Application period” means the length of time per day that wastewater or sludge is applied to the land.
- G. “Application rate” may be used for hydraulic loading.
- H. The “average” or “arithmetic mean” of any set of values is the summation of the individual values divided by the number of individual values.
- I. “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.
- J. “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.
- K. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility.
- L. A “composite sample” of wastewater 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.

- M. "Cover crop" is a small grain crop, such as oats, wheat, or barley; grasses; or other crop grown for agronomic use.
- N. "Cumulative pollutant loading rate" is the maximum amount of an inorganic pollutant that can be applied to an area of land.
- O. "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.
- P. "Daily maximum" is the highest average value recorded of samples collected on any single day during the calendar month.
- Q. "Daily minimum" is the lowest average value recorded of samples collected on any single day during the calendar month.
- R. The "Department" or "DHEC" shall refer to the South Carolina Department of Health and Environmental Control.
- S. "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.
- T. "Dry weight basis" means calculated on the basis of having been dried at 105° Celcius until reaching a constant mass (i.e., essentially 100 percent solids content).
- U. 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).

- V. A “grab sample” of wastewater 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.
- W. “Groundwater” means the water below the land surface found in fractured rock or various soil strata.
- X. “Hydraulic loading” means the rate at which liquid is applied to the land per unit area. The term “application rate” may be used for hydraulic loading.
- Y. “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.
- Z. 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.
- AA. “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).
- BB. “Monitoring well” means any well used to sample groundwater for water quality analysis or to measure groundwater levels.
- CC. The “monthly average”, other than for fecal coliform and enterococci, is the arithmetic mean of all samples collected in a calendar month period. The monthly average for fecal coliform and enterococci bacteria is the geometric mean of all samples collected in a calendar month period. The monthly average loading is the arithmetic average of all daily discharges made during the month.
- DD. “Nutrients” means an element or compound essential as raw materials for plant growth and development such as Total Nitrogen (N), Phosphorus (P), Potassium (K), Calcium (Ca), Magnesium (Mg), Sulfur (S), Boron (B), Zinc (Zn), Manganese (Mn), Iron (Fe), Copper (Cu), Molybdenum (Mo), Chlorine (Cl), and Sodium (Na). Total Nitrogen means Total Kjeldahl Nitrogen that is the sum of Organic Nitrogen and Inorganic Nitrogen. Inorganic Nitrogen is the sum of Ammonia Nitrogen, Nitrite Nitrogen, and Nitrate Nitrogen.
- EE. The “practical quantitation limit (PQL)” is the concentration at which the entire analytical system must give 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.
- FF. “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.
- GG. “Quarterly average”, other than for fecal coliform and enterococci, is the arithmetic mean of all samples collected in a quarter. The quarterly average for fecal coliform and enterococci is the geometric mean of all samples collected in

a calendar quarter period. The quarterly average loading is the arithmetic average of all individual loadings determinations made during the quarter.

- HH. "Runoff" is rainwater, leachate or other liquid that drains overland on any part of a land surface and runs off the land surface.
- II. "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.
- JJ. "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.
- KK. "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.
- LL. "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.
- MM. "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.
- NN. "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.
- OO. "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.
- PP. "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 measure at least 24 hours after encountering it in a well.
- QQ. "Weekly average", other than for fecal coliform and enterococci, is the arithmetic mean of all the samples collected during a one-week period. The weekly average for fecal coliform and enterococci is the geometric mean of all samples collected in 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.

- RR. "Yearly average", other than for fecal coliform and enterococci, is the arithmetic mean of all samples collected in a calendar year period. The quarterly average for fecal coliform and enterococci is the geometric mean of all samples collected in a calendar year period. The yearly average loading is the arithmetic average of all individual loadings determinations made during the year.

PART II. Standard Conditions

A. Duty to comply

The permittee shall comply with all conditions of the permit. Any permit noncompliance constitutes a violation of 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. 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 a valid land application permit or State permit is subject to the actions defined in the State law and Regulation 61-9.

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 at least 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 that are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

2. Power Failures. 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 inspection of the sludge disposal site on each occasion that sludge is applied by a certified operator of the appropriate grade as defined in Part V.C.3. The inspection shall include, but should not be limited to, areas which require visual observation to determine efficient operation and for which immediate corrective measures can be taken using the O & M manual as a guide. All inspections shall be recorded and shall include the date, time, and name of the person making the inspection, corrective measures taken, and routine equipment maintenance, repair, or replacement performed. The permittee shall maintain all records of inspections at the permitted facility as required by the permit, and the records shall be made available for on-site review during normal working hours.
5. A roster of operators associated with the facility's operation and their certification grades shall be submitted to the DHEC/Bureau of Water/Water Pollution Control Division. For existing facilities, this roster shall be submitted within thirty (30) days of the effective date of this permit. For new facilities, this roster must be submitted prior to placing the facility into operation. Additionally, any changes in operator or operators (including their certification grades) shall be submitted to the Department as they occur.
6. Wastewater Sewer Systems
 - a. Purpose. This section establishes rules for governing the operation and maintenance of wastewater sewer systems, including gravity or pressure interceptor sewers. It is the purpose of this section to establish standards for the management of sewer systems to prevent and/or minimize system failures that would lead to public health or environmental impacts.
 - b. Applicability. This section applies to all sewer systems that have been or would be subject to a DHEC construction permit under Regulation 61-67 and whose owner owns or operates the wastewater treatment system to which the sewer discharges.
 - c. General requirements. The permittee must:
 - (1) Properly manage, operate, and maintain at all times all parts of its sewer system(s), to include

maintaining contractual operation agreements to provide services, if appropriate;

- (2) Provide adequate capacity to convey base flows and peak flows for all parts of the sewer system or, if capital improvements are necessary to meet this standard, develop a schedule of short and long term improvements;
- (3) Take all reasonable steps to stop and mitigate the impact of releases of wastewater to the environment; and
- (4) Notify the Department within 30 days of a proposed change in ownership of a sewer system.

F. Permit actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

G. Property rights

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

H. Duty to provide information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

I. Inspection and entry

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

1. Enter upon the permittee's premises where a regulated facility or activity including all land disposal sites 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 Pollution Control Act, any substances or parameters at any location including all land disposal sites.

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 sampling or 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 \square 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 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 be subject to civil and criminal penalties as provided for in the act, law or other appropriate regulations.

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 application, record, report, plan or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall be subject to civil or criminal provisions as provided for in the act, law, or other appropriate regulations.

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 (and obtain a Construction Permit if required under Regulation 61-67). Prior notice is required only when:

- a. 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 Regulation 61-9.122.42(a)(1).
- b. The alteration or addition results in a significant change in the permittee's 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;

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.

- 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.61-9.505.62(e)(2)), or a minor modification made (under R.61-9.505.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under PCA.
- b. Other transfers. As an alternative to transfers under paragraph a of this section, any land application or state 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 a written agreement between the existing and new permittee 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 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
Water Pollution Enforcement 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
Water Pollution Enforcement 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.
- 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.61-9.505.44).
 - (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 61-9.505.44).
- 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.

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

P. Other Requirements

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. Sludge 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 land apply treated industrial sludge to the sites approved in this permit (See Part V.B.1.a). The sludge shall be monitored as specified below when the sludge is to be land applied:

POLLUTANT	LIMITATIONS			MONITORING REQUIREMENTS	
	Concentration	Ceiling Concentration ^{1,2} (mg/kg)	Cumulative Loading (kg/ha)	Measurement Frequency ³	Sample Type
Total Solids (mg/l)	MR ⁴	-	-	1/Application	Composite ⁵
Volatile Solids (mg/kg)	MR	-	-	1/Application	Composite
Total Kjeldahl Nitrogen (mg/kg) ⁶	MR	-	-	1/Application	Composite
Total Inorganic Nitrogen (mg/kg) ⁶	MR	-	-	1/Application	Composite
Total Ammonia Nitrogen (mg/kg) ⁶	MR	-	-	1/Application	Composite
Total Nitrate Nitrogen (mg/kg) ⁶	MR	-	-	1/Application	Composite
Total Phosphorus (mg/kg) ⁶	MR	-	-	1/Application	Composite
Total Potassium (mg/kg) ⁶	MR	-	-	1/Application	Composite
PAN (mg/kg) ⁷	MR	-	-	1/Application	Calculation
PAN (lbs/acre/year) ⁷	75	-	-	1/Application	Calculation
Calcium Carbonate Equivalency ⁸	MR	-	-	1/Application	Composite
Total Arsenic		75	41	1/Application	Composite
Total Cadmium		85	39	1/Application	Composite
Total Copper		4300	1500	1/Application	Composite
Total Lead		840	300	1/Application	Composite
Total Mercury		57	17	1/Application	Composite
Total Molybdenum		75	-	1/Application	Composite
Total Nickel		420	420	1/Application	Composite
Total Selenium		100	100	1/Application	Composite
Total Zinc		7500	2800	1/Application	Composite
Fecal Coliform ⁹	MR	-	-	1/Application	Composite
pH ⁵ (Std. Units)	MR	-	-	1/Application	Composite

¹Results shall be expressed on a dry weight basis.

²Sludge shall not be applied if ceiling concentrations are exceeded.

³Monitoring shall be performed once per application of sludge but no more than once per quarter.

⁴MR = Monitor and Report

⁵See Part V.B.4.a.

⁶In addition to reporting concentrations in mg/kg, the application rate in lbs/acre/year shall be provided in the annual report.

⁷PAN = Plant Available Nitrogen.

⁸If sewage sludge is alkaline stabilized.

⁹Fecal coliform shall be reported in the number of colonies per gram on dry weight.

2. Samples taken in compliance with the monitoring requirements specified above shall be comprised of dewatered sludge that meets a PSRP requirement and is representative of the sludge that is being land applied, whether taken directly from the drying beds or from storage.

B. Soil Monitoring Requirements

1. The permittee shall perform soil monitoring and submit the results to the Department within three months of the effective date of this permit. Soil monitoring shall be conducted in accordance with the recommendations of the Clemson University Cooperative Extension Service Bulletin *EC 476 Nutrient Management for South Carolina (February 2001 reedited March 2002)* and the following conditions:
 - a. Soil sampling shall be performed for: arsenic, boron, cadmium, copper, lead, mercury, magnesium, manganese, molybdenum, nickel, selenium, zinc, nitrogen, nitrate-nitrogen, potassium, phosphorus, and soluble salts.
2. See Part III.D. below for additional requirements per DHEC Form 0874.

C. Reserved

D. Sludge Annual Agronomic Loading Worksheet (DHEC 0874)

1. The permittee must maintain the Sludge Annual Agronomic Loading Rate Worksheet (DHEC Form 0874). This worksheet should be maintained in a common location and be available for review.
2. **Sludge Applications:** — Applications will be made during the April — October timeframe when the pine trees are most actively growing and uptaking nitrogen from the soil.
3. **Soil Samples:** — Soil samples will be collected from 3 locations each year that sludge is land applied. One sample will be collected from the front 10 rows, one from the back 10 rows, and one from an area adjacent to the land application site where sludge has never been applied. Each sample will consist of 10 corings from surface to 12 inches depth from random locations, mixed into a single composite sample. Samples will be analyzed for ammonia-N by an SCDHEC certified laboratory.
4. **Sludge Samples:** In accordance with Permit #ND0072125 requirements, sludge samples will also be analyzed for metals, nutrients and other parameters prior to application.

5. **Background Nitrogen Levels Adjacent to Site:** The background nitrogen level in the soil adjacent to the land application site will be determined by averaging the last 4 sample results. This will provide a more accurate indication of background levels, since individual analyses results can vary significantly.
6. **Groundwater Monitoring Well Samples: Monitoring Well Samples** — A sample will be collected every 5 years from nearby monitoring well LWN 3C, located directly downstream from the application site (see attachment). The sample will be analyzed for nitrate-N by an SCDHEC certified laboratory. Field measurements will include water level, pH and conductivity. The next sampling event will be in 2019, since initial sampling was completed in 2014.
7. **Allowable Sludge Loading Rate:** The allowable sludge loading rate shall be determined using the SCDHEC Sludge Annual Agronomic Loading Rate Worksheet, but shall not exceed 75 lbs PAN/acre/yr, per #ND0072125. One worksheet will be prepared for the front 10 rows of the land application site, and a separate worksheet for the back 10 rows.

- a. The Current Available Nitrogen in Soil Worksheet (line 2c on the Loading Rate Worksheet) will be completed by subtracting the average background nitrogen level from current year nitrogen levels for the front and back of the land application site. Example calculations follow:

Background Nitrogen Level — 24 mg/kg (ppm) - an average of the last 4 results.

Available Nitrogen Front 10 Rows — 30 mg/kg

Available Nitrogen Back 10 Rows — 25 mg/kg

Available Nitrogen in Soil

Front 10 rows: $30 \text{ mg/kg} - 24 \text{ mg/kg (background)} = 6 \text{ mg/kg} \times 4 \text{ (the Soil Worksheet conversion factor)} = 24 \text{ lbs/acre}$

Back 10 rows: $25 \text{ mg/kg} - 24 \text{ mg/kg (background)} = 1 \text{ mg/kg} \times 4 = 4 \text{ lbs/acre}$

The Available Nitrogen in Soil values shown above would input to line 2c, resulting in two different allowable application rates for the front and back rows. The front row would have a lower allowable application rate since the soil nitrogen result was higher.

- b. As an example, if "Nitrogen contributions from previous year activities" (line 2a of the Loading Rate Worksheet) were 6.0 lbs/acre, and there were no other current year applications (line 2b), then the "Adjusted crop nitrogen requirement (line 3) would be as follows:

Crop nitrogen requirement (line 1)- 100 lbs/acre (from Clemson Plant Nutrient Element Mgmt)

Nitrogen contributions from previous years activities (line 2a) — 6.0 acres/yr

Nitrogen contributions from current year's activities (line 2b) — 0.0 acres/yr

Current Available Nitrogen in Soil (line 2c) — 24 lbs/acre (front rows), 4 lbs/acre (back rows)

Adjusted crop nitrogen requirement (line 3):

Front 10 Rows: $100 \text{ lbs/acre} - 6.0 \text{ lbs/acre} - 24 \text{ lbs/acre} = 70 \text{ lbs/acre max}$

Back 10 Rows: $100 \text{ lbs/acre} - 6.0 \text{ lbs/acre} - 4 \text{ lbs/acre} = 90 \text{ lbs/acre}$, but this would be reduced to 75 lbs/acre, the maximum allowed by the permit.

The above examples assumes sludge analyses results do not further limit the maximum loading rates.

Note: The above revisions to Form 0874 are based on the assumption that there are no other sources of nitrogen that may be present and available to the trees. If in the future, we determine that another source is present then this format will need to be modified to reflect the additional nitrogen source.

Part IV. Schedule of Compliance

- A. Schedule(s): NA

- 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. Groundwater Requirements

NA

B. Sludge, Soil and Other Land Application Requirements

1. Land Application Requirements

- a. Land application of sanitary sludge generated at several treatment plants at the Savannah River Site is limited to the following approved site. No change in the approved field or cover crop is allowed without modification to this permit.

Location	Net Acreage	Cover Crop	Plant Available Nitrogen (PAN) (lb/ac/yr)
Forested land located on Road 3 near the intersection of Burma Road.	23	Forest	75

- b. The sludge application loading rate is to be calculated for plant available nitrogen (PAN) and applied at a rate not to exceed 75 lbs/acre.
- c. The application of industrial sludge must be accomplished using calibrated equipment designed for even distribution over the site. The permittee shall provide supervision and is directly responsible for the land application event.
- d. It is the responsibility of the permittee to ensure that all waste entering their sanitary sewage comply with their NPDES permit and that unpermitted wastes be prohibited from disposal at the site.
- e. The sludge shall be applied as near as possible to the basal area of the trees. The sludge shall not be spread where it will be unavailable for tree uptake.
- f. The permittee is responsible for proper transportation of sludge to the land application site and for proper distribution of the sludge to the site. The transporting equipment shall be watertight and designed for sludge handling and application.
- g. The permittee shall take all reasonable steps to prevent or minimize land application or misuse of industrial sludge in violation of this approval that may possibly adversely affect human health or the environment.
- h. Nuisance conditions such as odors may require the incorporation of the industrial sludge into the soil or other odor control measures to be taken (see Part V.B.7).
- 1. Adequate procedures shall be provided to prevent wind erosion and surface runoff from conveying pollutants from the industrial sludge application onto adjacent property or waters of the State.

2. Site Restrictions

- a. Adequate warning signs shall be posted to limit access to the land application site.
- a. Public access to land with a high potential for public exposure shall be restricted for one year after application of industrial sludge.
- b. Public access to land with a low potential for public exposure shall be restricted for 30 days after application of industrial sludge.

3. Management Practices

- a. Industrial sludge shall not be applied to agricultural land or forest that is within 10 meters or less from waters of the State, as defined in Reg. 61-9.122.2, unless otherwise specified by the Department.
- b. Industrial sludge shall not be applied to the land application site that is flooded, frozen, or snow-covered so that the bulk industrial sludge enters a wetland or other waters of the State, as defined in R.61-9.122.2, except as provided in a permit issued pursuant to section 402 or 404 of the CWA.

4. Sludge Monitoring Requirements: The requirements of this section apply when sludge is to be land-applied.

- a. All sludge must be stabilized to meet a Process to Significantly Reduce Pathogens (PSRP). SRS has decided to use Air Drying rather than Aerobic Digestion for this purpose: therefore, no sludge shall be applied that has not been dried on drying beds at the Central Sanitary Wastewater Treatment Facility for a minimum of three months. This is in accordance with the requirements of South Carolina Regulation 61-9.503, Appendix B. SRS also has the option of utilizing Alternative #1 (fecal coliform analysis) in South Carolina Regulation 61-9.504.32(b)(2) to meet PSRP. Pathogen reduction requirements shall be monitored once per application but no more than once per quarter.

Composite sampling shall be performed. For sludge taken directly from the drying beds, grab samples of equal amounts from each bed shall be obtained and combined to form a composite sample. For sludge taken from the storage shed, samples shall be taken at various depths and along the length of the pile and then mixed together to form a composite sample. If sludge taken directly from the drying beds is mixed with sludge from the storage shed, a composite sample from both the drying beds and from the storage shed shall be taken and combined to form a composite sample for the mixed sludge.

- b. One of the vector attraction reduction requirements found in R.61-9 in Section.504.33(b)(1) through Section 504.33(b)(10) or 504.33(b)(13) shall be met when industrial sludge is bulk applied to agricultural land, forest, or a public contact site when the industrial sludge is expected to attract vectors.
- c. Sludge monitoring shall be performed in accordance with Part III.A.
- d. In years when sludge is land applied, the permittee shall on an annual basis demonstrate the non-hazardous nature of the industrial sludge by performing a toxicity characteristic leaching procedure (TCLP) analysis for metals and organics. The permittee shall obtain a composite sludge sample

proportioned to the sludge production of each contributing plant after which the sample shall undergo a TCLP analysis and report the results to this Office in the annual report.

a. 5. Reserved

6. Record keeping and Reporting

- a. All quarterly monitoring periods shall include a three-month reporting period based on calendar quarters (i.e. 1st Quarter being January through March, 2nd being April through June, 3rd being July through September, and 4th being October through December).
- b. The permittee shall submit the following information annually in report form:
 - (1) Permittee Name, ND Permit Number, and location (either by street address or latitude and longitude) of the site on which industrial sludge was applied;
 - (2) Contact Person including phone number and address;
 - (3) A map of the land application site;
 - (4) The number and identity of acres on which the sanitary sludge was land applied;
 - (5) The date(s) on which industrial sludge was land applied to each site;
 - (6) The total amount of industrial sludge land applied to each site in dry metric tons for the current twelve-month period;
 - (7) The cumulative total amount of each pollutant in the industrial sludge applied to each site since the initial application of industrial sludge to the each land application site (kilograms/hectare);
 - (8) The calculations to determine the sludge application loading rate for total nitrogen (lbs/acre);
 - (9) The adjusted application rates, if applicable, based on the most recent sludge sampling and soil sampling;
 - (10) Documentation that all sludge requirements of Part V.B.4 have been met for each quarterly monitoring period (include all analytical laboratory results);
 - (11) Any soil monitoring and analysis data for the land application site; and
 - (12) This data collected shall be evaluated to determine and to calculate the cumulative loadings of metals in kg/ha. The above information must also be kept at the permitted facility and be available for on-site review during normal working hours.
- c. All annual reports shall be received by the Department no later than February 19th of each calendar year, for the period of January 1 through December 31 of the previous calendar year.

7. Odor Control Requirements

The permit holder shall use best management practices normally associated with the proper operation and maintenance of a sludge wastewater treatment site, any sludge storage or lagoon areas, transportation of sludges, and all other related activities to ensure that an undesirable level of odor does not exist.

- a. The permittee shall prepare an odor abatement plan for the industrial sludge treatment sites, any sludge storage or lagoon areas, and land application or land disposal sites. The permittee shall prepare the plan in accordance with R.61-9.504.50 (Odor Control Requirements). Permittees that land apply sludge must prepare the plan by December 24, 2003. For permittees with other sludge related activities, the plan must be prepared by June 27, 2004. The plan must include the following topics:
 - (1) Operation and maintenance practices which are used to eliminate or minimize undesirable odor levels in the form of best management practices for odor control;
 - (2) Use of treatment processes for reduction of undesirable odors;
 - (3) Use of setbacks;
 - (4) Contingency plans and methods to address odor problems for the different type of disposal/application methods used.
- b. The Department may review the odor abatement plan for compliance with R.61-9.504.50. The Department may require changes to the plan as appropriate.
- c. The permittee shall not cause, allow, or permit emission into the ambient air of any substance or combinations of substances in quantities that an undesirable level of odor is determined to result unless preventative measures of the type set out below are taken to abate or control the emission to the satisfaction of the Department. Should an odor problem come to the attention of the Department through field surveillance or specific complaints, the Department may determine, in accordance with section 48-1-120 of the Pollution Control Act, if the odor is at an undesirable level by considering the character and degree of injury or interference to:
 - (1) The health or welfare of the people;
 - (2) Plant, animal, freshwater aquatic, or marine life;
 - (3) Property; or
 - (4) Enjoyment of life or use of affected property.
- d. Should the Department determine that an undesirable level of odor exists, the Department may require:
 - (1) The permittee to submit a corrective action plan to address the odor problem,
 - (2) Remediation of the undesirable level of odor within a reasonable timeframe, and

- (3) In an order, specific methods to address the problem.
- e. If the permittee fails to control or abate the odor problems addressed in this section within the specified timeframe, the Department may revoke disposal/application activities associated with the site or the specific aspect of the sludge management program.
- f. The odor abatement plan shall be updated and maintained as necessary throughout the life of the permit.

C. Other Conditions

1. This permit shall be modified, or alternatively, revoked and reissued if there are alterations or additions to the permitted facility or activity (including a change or changes in the permittee's sludge use or disposal practice) that occurred after the permit issuance that justify the application of permit conditions that are different from or absent in the existing permit.
2. This permit may be modified to address any standard for sludge use or disposal promulgated under Section 405(d) and Section 503 of the Clean Water Act or additional controls of a pollutant or practice not currently limited in this permit.
3. A wastewater operator with a Grade B-Biological or higher certification shall be responsible for the overall operation of the sludge disposal process (sludge treatment, sludge storage, etc.).
4. The sludge disposal permit may be terminated if there is a change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by this permit.
5. The permittee shall submit written documentation that provides a list of the Chief Operators and backup Chief Operators associated with the operation of the Savannah River Site wastewater treatment facilities to the Water Pollution Control Compliance and Enforcement Section and to the Region 5 EQC Office within thirty (30) days from the effective date of this permit. Additionally, any changes in the status of these operators shall be submitted in a written update to the Department within thirty (30) days. This requirement replaces the requirement in Part II.E.5 on Page 9 of this permit.

A "Chief Operator" is the main operator responsible for a wastewater treatment facility and is an operator who holds a valid certificate of the appropriate grade for that facility. A "backup Chief Operator" is a certified operator of the appropriate grade for the wastewater facility and he/she may function as the Chief Operator, as needed, for operation of the wastewater treatment facility.

6. The permittee shall maintain an all-weather access road to the disposal site.