COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Permit No.: VA0067954
Effective Date: December 4, 2009
Expiration Date: December 3, 2014

AUTHORIZATION TO DISCHARGE UNDER THE
VIRGINIA POLLUTANT DISCHARGE ELIMINATION SYSTEM
AND THE VIRGINIA STATE WATER CONTROL LAW

In compliance with the provisions of the Clean Water Act as amended and pursuant to the State Water Control Law and regulations adopted pursuant thereto, the following owner is authorized to discharge in accordance with the information submitted with the permit application, and with this permit cover page, Part I – Effluent Limitations and Monitoring Requirements, and Part II – Conditions Applicable To All VPDES Permits, as set forth herein.

Owner: Louisa County Water Authority
Facility Name: Louisa Regional WWTP
City: Louisa
County: Louisa
Facility Location: 131 Pine Ridge Drive

The owner is authorized to discharge to the following receiving stream:

Stream: Beaver Creek
River Basin: York River
River Subbasin: N/A
Section: 3
Class: III
Special Standards: None

Thomas A. Faha
Director, Northern Regional Office
Department of Environmental Quality

12 · 4 · 09
Date

A. Effluent Limitations and Monitoring Requirements

1. Outfall 001 – 0.40 MGD Facility

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. The Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall are included in the current Registration List for the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia, under registration number VAN030125.

c. During the period beginning with the modification of the permit and lasting until the issuance of the CTO for the 0.80 MGD facility or the permit's expiration date, whichever comes first, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations						Monitoring Requirements	
	Monthly Average[1]		Weekly Average[1]		Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL		NA		NA	NL	Continuous	TIRE
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
$CBOD_5$	10 mg/L	15 kg/day	15 mg/L	23 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	30 mg/L	45 kg/day	45 mg/L	68 kg/day	NA	NA	3D/W	8H-C
Ammonia as N (April-October)	2.2 mg/L		3.0 mg/L		NA	NA	3D/W	8H-C
Ammonia as N (November-March)	4.8 mg/L		6.5 mg/L		NA	NA	3D/W	8H-C
Total Recoverable Zinc[6]	100 ug/L		100 ug/L		NA	NA	1/M	Grab
DO	NA		NA		6.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)	126 n/100 mLs		NA		NA	NA	3D/W	Grab
TKN	NL (mg/L)		NA		NA	NA	1/M	8H-C
$NO_2 + NO_3$ as Nitrogen	NL (mg/L)		NA		NA	NA	1/M	8H-C
Total Nitrogen[4]	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Nitrogen – Year to Date[5]	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Nitrogen – Calendar Year [5]	NL (mg/L)		NA		NA	NA	1/YR	Calculated
Total Phosphorus	NL (mg/L)		NA		NA	NA	1/M	8H-C
Total Phosphorus – Year to Date[5]	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year [5]	NL (mg/L)		NA		NA	NA	1/YR	Calculated
Chronic Toxicity – *C. dubia* (TU_c) [3]	NA		NA		NA	NL	1/YR	8H-C
Chronic Toxicity – *P. promelas* (TU_c) [3]	NA		NA		NA	NL	1/YR	8H-C

(1) See Part I.B.

(2) The design flow is 0.40 MGD.

(3) See Part I.C. for toxicity monitoring requirements

(4) Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

(5) See Part I.B.4. for nutrient reporting calculations.

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
TIRE = Totalizing, indicating and recording equipment.

1/D = Once every day.
3D/W = Three days a week.
1/M = Once every month.
1/YR = Once every year.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 8-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of eight (8) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of eight (8) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

2. Outfall 001 – 0.80 MGD Facility

a. There shall be no discharge of floating solids or visible foam in other than trace amounts.

b. The Total Nitrogen and Total Phosphorus calendar year load limits associated with this outfall are included in the current Registration List for the General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Dischargers and Nutrient Trading in the Chesapeake Watershed in Virginia, under registration number VAN030125.

c. During the period beginning with the issuance of the CTO for the 0.80 MGD facility and lasting until the permit's expiration date, the permittee is authorized to discharge from Outfall Number 001. Such discharges shall be limited and monitored by the permittee as specified below.

Parameter	Discharge Limitations						Monitoring Requirements	
	Monthly Average[1]		Weekly Average[1]		Minimum	Maximum[1]	Frequency	Sample Type
Flow[2] (MGD)	NL		NA		NA	NL	Continuous	TIRE
pH	NA		NA		6.0 S.U.	9.0 S.U.	1/D	Grab
BOD_5	10 mg/L	30 kg/day	15 mg/L	45 kg/day	NA	NA	3D/W	8H-C
Total Suspended Solids, TSS	20 mg/L	60 kg/day	30 mg/L	91 kg/day	NA	NA	3D/W	8H-C
Ammonia as N (April-October)	5.1 mg/L		6.8 mg/L		NA	NA	3D/W	8H-C
Ammonia as N (November-March)	8.5 mg/L		11.5 mg/L		NA	NA	3D/W	8H-C
Total Recoverable Zinc	100 ug/L		100 ug/L		NA	NA	1/M	Grab
DO	NA		NA		6.0 mg/L	NA	1/D	Grab
E. coli (Geometric Mean)	126 n/100 mLs		NA		NA	NA	3D/W	Grab
TKN	NL (mg/L)		NA		NA	NA	1/2W	8H-C
$NO_2 + NO_3$ as Nitrogen	NL (mg/L)		NA		NA	NA	1/2W	8H-C
Total Nitrogen[4]	NL (mg/L)		NA		NA	NA	1/2W	Calculated
Total Nitrogen – Year to Date[5]	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Nitrogen – Calendar Year [5]	8.0 mg/L		NA		NA	NA	1/YR	Calculated
Total Phosphorus	NL (mg/L)		NA		NA	NA	1/2W	8H-C
Total Phosphorus – Year to Date[5]	NL (mg/L)		NA		NA	NA	1/M	Calculated
Total Phosphorus – Calendar Year [5]	1.0 mg/L		NA		NA	NA	1/YR	Calculated
Chronic Toxicity – *C. dubia* (TU_c) [3]	NA		NA		NA	NL	1/YR	8H-C
Chronic Toxicity – *P. promelas* (TU_c) [3]	NA		NA		NA	NL	1/YR	8H-C

[1] See Part I.B.

[2] The design flow is 0.80 MGD.

[3] See Part 1.C. for toxicity monitoring requirements

[4] Total Nitrogen is the sum of Total Kjeldahl Nitrogen and NO_2+NO_3 Nitrogen and shall be calculated from the results of those tests.

[5] See Part 1.B.4. for nutrient reporting calculations

MGD = Million gallons per day.
N/A = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
TIRE = Totalizing, indicating and recording equipment.

1/D = Once every day.
3D/W = Three days a week.
1/2W = Once every 2 weeks, >7 days apart
1/M = Once every month.
1/YR = Once every year.

8H-C = A flow proportional composite sample collected manually or automatically, and discretely or continuously, for the entire discharge of the monitored 24-hour period. Where discrete sampling is employed, the permittee shall collect a minimum of twenty-four (24) aliquots for compositing. Discrete sampling may be flow proportioned either by varying the time interval between each aliquot or the volume of each aliquot. Time composite samples consisting of a minimum of twenty-four (24) grab samples obtained at hourly or smaller intervals may be collected where the permittee demonstrates that the discharge flow rate (gallons per minute) does not vary by 10% or more during the monitored discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

A. Effluent Limitations and Monitoring Requirements

3. Sewage Sludge

During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage sewage sludge according to the approved Sludge Management Plan. The pollutants in the sewage sludge shall be limited and monitored by the permittee as specified below. All samples shall be collected and analyzed in accordance with the approved O&M Manual.

a. Sewage Sludge Annual Production Monitoring (SP1).

The permittee shall report the annual total amount of sludge produced (in dry metric tons) and annual amount of sludge (in dry metric tons) land applied. Data shall be reported on the Discharge Monitoring Report (DMR) for discharge number SP1.

b. Sewage Sludge Chemical Limitations and Monitoring Requirement (S01).

1. *Chemical Pollutant Characteristics*[1]

SLUDGE CHARACTERISTIC	LIMITATIONS		MONITORING REQUIREMENTS	
	Ceiling Concentration Maximum (mg/kg)	Monthly Average (mg/kg)	Frequency	Sample Type
Percent Solids (%)	N/A	NL	1/Year	Composite
Arsenic, Sludge	75	41	1/Year	Composite
Cadmium, Sludge	85	39	1/Year	Composite
Copper, Sludge	4300	1500	1/Year	Composite
Lead, Sludge	840	300	1/Year	Composite
Mercury, Sludge	57	17	1/Year	Composite
Molybdenum, Sludge	75	N/A	1/Year	Composite
Nickel, Sludge	420	420	1/Year	Composite
Selenium, Sludge	100	100	1/Year	Composite
Zinc, Sludge	7500	2800	1/Year	Composite
TKN	NA	NL	1/Year	Composite
Ammonium Nitrogen	NA	NL	1/Year	Composite
Total P	NA	NL	1/Year	Composite
Total K	NA	NL	1/Year	Composite
pH (s.u.)	NA	NL	1/Year	Composite
Alkalinity as $CaCO_3$[2]	NA	NL	1/Year	Composite
PAN(LBDTN)	NA	NL	1/Year	Composite

[1] All samples shall be collected and analyzed in accordance With approved EPA procedures. Methods are listed in Table IV.

[2] Lime treated sludge (10% or more $CaCO_3$ by dry weight) shall be analyzed for percent Calcium Carbonate Equivalence (CCE).

N/A = Not applicable.
NL = No limit; monitor and report.
mg/kg = Milligrams per kilogram, dry weight

Pathogen Reduction Limitations. The permittee shall achieve pathogen reduction in accordance with the approved Sludge Management Plan through Class B, Alternative 2 (9 VAC 25-31-710): Aerobic Digestion. Sewage sludge is agitated with air or oxygen to maintain aerobic conditions for a specified mean cell residence time at a specific temperature. Values for the mean cell residence time and temperature shall be between 40 days at 20°C and 60 days at 15°C. The permittee shall verify in the annual report that the above pathogen reduction is achieved by means of appropriate documentation.

Vector Attraction Reduction Limitation. Alternative 4 – the specific oxygen uptake rate for aerobically digested sludge, calculated according to the method in 9 VAC 25-31-720 B.4. The permittee shall perform monitoring and maintain bench sheets to insure that the vector attraction reduction requirements, specified in 9 VAC 25-31-720.B., are obtained. Copies of the bench sheets shall be submitted with the annual reports for sludge.

A. Effluent Limitations and Monitoring Requirements

4. Soil Monitoring

During the period beginning with the permit's effective date and lasting until the permit expiration date, the permittee is authorized to manage sewage sludge according to the approved Sludge Management Plan. The pollutants in the soil and land application sites shall be limited and monitored by the permittee as specified below and reported in accordance with Part I.F.6. All samples shall be collected and analyzed in accordance with the approved O&M Manual. Approved methods are listed in Table V.

a. Soil Monitoring Requirements.

1. *Chemical Pollutant Characteristics*[1]

SLUDGE CHARACTERISTIC	LIMITATIONS	MONITORING REQUIREMENTS	
	Monthly Average (mg/kg)	Frequency	Sample Type
Soil pH (s.u.)	NL	1/Application	Composite
Cation Exchange Capacity (meq/100 g)	41	1/Application	Composite
Available Phosphorus (mg/kg)	39	1/Application	Composite
Exchangeable Potassium (mg/kg)	1500	1/Application	Composite
Exchangeable Magnesium (mg/kg)	300	1/Application	Composite

[1] All samples shall be collected and analyzed in accordance With approved EPA procedures.

N/A = Not applicable.
NL = No limit; monitor and report.
mg/kg = Milligrams per kilogram, dry weight

2. Samples taken in compliance with the monitoring requirements specified above shall be taken at the following locations: All land application sites before sludge is reapplied.

3. Soil composite samples shall be representative of the soil types delineated by the SCS Soil Survey (or equivalent). Samples shall be taken at 0-6 inches depth for each land application site. Sampling shall be performed as outlined in the approved O&M Manual.

4. Unless otherwise stated, all parameters are reported on a dry weight basis.

B. Additional Monitoring Requirements, Quantification Levels and Compliance Reporting Instructions

1. Quantification Levels
   a. The maximum quantification levels (QLs) shall be as follows:

Characteristic	Quantification Level
$BOD_5/CBOD_5$	5 mg/L
TSS	1.0 mg/L
Ammonia as N	0.2 mg/L
TKN	0.50 mg/L
Total Phosphorus	0.10 mg/L
Nitrate+Nitrite	0.50 mg/L
Zinc	20 ug/L

   b. The permittee may use any approved method, which has a QL equal to or lower than the QL listed in B.1.a. above. The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method.
   c. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained.
   d. An appropriate analytical method for metals shall be selected from the following list of EPA methods, or any approved method in 40 CFR Part 136, which will achieve a QL that is less than or equal to the QL specified in B.1.a. above.

Metal	**Analytical Methods**
Zinc	1638; 1639

2. Compliance Reporting Under Part I.A.
   a. *Monthly Average* – Compliance with the monthly average limitations and/or reporting requirements for the parameters, except for nitrogen and phosphorus parameters, listed in Part I.B.1. above shall be determined as follows: All data below the test method QL shall be treated as zero. All data equal to or above the QL shall be treated as it is reported. An arithmetic average shall be calculated using all reported data, including the defined zeros. This arithmetic average shall be reported on the DMR. If the average is less than the QL then <QL shall be reported on the DMR, otherwise the average shall be reported as calculated.
   b. *Maximum Weekly Average* – Compliance with the weekly average limitations and/or reporting requirements for the parameters, except for nitrogen and phosphorus parameters, listed in Part I.B.1. above shall be determined as follows: All data below the test method QL shall be treated as zero. All data equal to or above the QL shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If the average is less than the QL then <QL shall be reported on the DMR, otherwise the average shall be reported as calculated.
   c. Any single datum required shall be reported as <QL if it is less than the QL listed above. Otherwise the numerical value shall be reported.
   d. The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used (i.e., 5 always rounding up or to the nearest even number) by the permittee, the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

3. Nutrient Reporting Calculations for Part I. A.

a. For each calendar month, the DMR shall show the calendar year-to-date average concentration (mg/L) calculated in accordance with the following formulae:

$$MC_{avg}\text{-YTD} = (\Sigma_{(\text{Jan-current month})} MC_{avg}) \div (\text{\# of months})$$

where:
MC_{avg}-YTD = calendar year-to-date average concentration (mg/L)
MC_{avg} = monthly average concentration (mg/L) as reported on DMR

b. The total nitrogen and phosphorus average concentrations (mg/L) for each calendar year (AC) shall be shown on the December DMR due January 10th of the following year. These values shall be calculated in accordance with the following formulae:

$$AC_{avg} = (\Sigma_{(\text{Jan-Dec})} MC_{avg}) \div 12$$

where:
AC_{avg} = calendar year average concentration (mg/L)
MC_{avg} = monthly average concentration (mg/L) as reported on DMR

c. For Total Phosphorus, all daily concentration data below the quantification level (QL) for the analytical method used should be treated as half the QL. All daily concentration data equal to or above the QL for the analytical method used shall be treated as it is reported.

d. For Total Nitrogen (TN), if none of the daily concentration data for the respective species (i.e., TKN, Nitrates/Nitrites) are equal to or above the QL for the respective analytical methods used, the daily TN concentration value reported shall equal one half of the largest QL used for the respective species. If one of the data is equal to or above the QL, the daily TN concentration value shall be treated as that data point is reported. If more than one of the data is above the QL, the daily TN concentration value shall equal the sum of the data points as reported.

C. Toxics Monitoring Program Requirements

1. Biological Monitoring for the 0.40 MGD Facility

a. In accordance with the schedule in C.2. below, the permittee shall conduct annual chronic toxicity tests for the duration of the permit or until the issuance of the CTO for the 0.80 MGD facility. The permittee shall collect 8-hour flow-proportioned composite samples of final effluent from Outfall 001.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*
Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable and a retest will have to be performed. The NOEC as determined by hypothesis testing shall be converted to

TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

b. The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3

c. The test dilutions shall be able to determine compliance for the following:

A Chronic NOEC of 100% is equivalent to a TU_c of 1.0.

d. Should the results of any test exceed the endpoint cited above, the permittee must conduct a retest of the effluent within 30 days. If an evaluation of the data indicates that a limit is needed, the permit may be modified to include a WET limit and a schedule of compliance.

e. Should the permittee conduct toxicity testing of the effluent prior to the compliance date listed in the schedule in Part C.2 below, the results of the test and the test report shall be reported with the DMR for the month following the receipt of the testing results. In no case shall this exceed 45 days from the completion of the test.

2. Reporting Schedule

The permittee shall monitor during the period specified, report the results on the DMR and shall supply one copy of the toxicity test report specified in this Toxics Management Program in accordance with the following schedule:

Period	Sampling Period	DMR/Report Submission Dates
Annual 1	January 1, 2010 – December 31, 2010	January 10, 2011
Annual 2	January 1, 2011 – December 31, 2011	January 10, 2012
Annual 3	January 1, 2012 – December 31, 2012	January 10, 2013
Annual 4	January 1, 2013 – December 31, 2013	January 10, 2014

3. Biological Monitoring for the 0.80 MGD facility

a. Commencing within six (6) months of the effective date of the issuance of the CTO for the 0.80 MGD facility, the permittee shall conduct quarterly chronic toxicity tests using 8-hour flow-proportioned composite samples of final effluent from outfall 001, for one year. If after one year toxicity results exhibit no toxic effects, annual chronic toxicity tests using 8-hour flow-proportioned composite samples of final effluent from outfall 001 shall commence for the remainder of the permit term.

The chronic tests to use are:

Chronic 3-Brood Static Renewal Survival and Reproduction Test using *Ceriodaphnia dubia*
Chronic 7-Day Static Renewal Survival and Growth Test using *Pimephales promelas*

These chronic tests shall be conducted in such a manner and at sufficient dilutions (minimum of five dilutions) to determine the "No Observed Effect Concentration" (NOEC) for survival and reproduction or growth. Results which cannot be quantified (i.e., a "less than" NOEC value) are not acceptable, and a retest will have to be performed. The NOEC as determined by hypothesis testing shall be converted to

TU_c (Chronic Toxic Units) for DMR reporting where $TU_c = 100/NOEC$. Report the LC_{50} at 48 hours and the IC_{25} with the NOEC's in the test report.

b. The permittee may provide additional samples to address data variability. These data shall be reported. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.3.

c. The test dilutions shall be able to determine compliance for the following:

Chronic NOEC of 100% is equivalent to a TU_c of 1.0.

Should the results of any test exceed the endpoint cited above, the permittee must conduct a retest of the effluent within 30 days. If an evaluation of the data indicates that a limit is needed, the permit may be modified to include a WET limit and a schedule of compliance.

D. Pretreatment Program Requirements

1. The permittee shall submit to the DEQ, Northern Regional Office (NRO), a survey of all Industrial Users discharging to the publicly owned treatment works (POTW) no later than June 4, 2010. The information shall be submitted on the DEQ Discharger Survey form, or an equivalent form that includes the quantity and quality of the wastewater. Survey results shall include the identification of significant industrial users of the POTW.

2. The permittee does not have an approved program. The permittee shall, once notified by the DEQ, Northern Regional Office, develop a legally enforceable pretreatment program which enables the POTW to control, by permit, the Significant Industrial Users (SIUs) discharging wastewater to the treatment works.

   - A Significant Industrial User (SIU) is one that:
     a) Has a process wastewater, excluding sanitary, noncontact cooling water, and boiler blowdown flow of 25,000 gallons or more per average workday;
     b) Contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant;
     c) Is subject to categorical pretreatment standards; or
     d) Has significant impact, either singly or in combination with other SIUs, on the treatment bn works or the quality of its effluent.

3. The approvable pretreatment program submission shall at a minimum contain the following parts:
   a) Legal authority,
   b) Program procedures,
   c) Funding and resources,
   d) Local limits evaluation and local limits if needed,
   e) Enforcement response plan, and
   f) List of Significant Industrial Users.

4. Upon DEQ approval of the pretreatment program, the permit shall be modified to incorporate the requirements of an approved pretreatment program.

5. The permittee shall submit to the DEQ-NRO an annual report that describes the permittee's program activities no later than January 31 of each year and shall include:

   a) An updated list of the SIUs to the treatment works showing categorical standards and local limits applicable to each;
   b) A summary of the compliance status of each SIU with pretreatment standards and permit requirements;
   c) A summary of the number and types of SIU sampling and inspections performed by the POTW;
   a) All information concerning interference, upset, permit violations, or water quality standards violations directly attributable to the SIU and enforcement actions to alleviate said events;
   b) A description of all enforcement actions taken against SIUs over the previous twelve (12) months;
   c) A summary of any changes to the submitted pretreatment program that have not been previously reported to DEQ-NVRO;
   d) A summary of permits issued to SIUs since the last annual report;
   e) POTW and self-monitoring results for SIUs determined to be in significant non-compliance during the reporting period;
   f) Results of the POTW's influent/effluent/sludge sampling not previously submitted to DEQ;
   g) Copies of newspaper publications of all SIUs in significant non-compliance during the reporting period. This is due no later than March 31 of each year; and
   h) Signature of an authorized representative.

6. DEQ may require the POTW to institute changes to the legal authority regarding Significant Industrial User permits:

   a) If the legal authority does not meet the requirements of the Clean Water Act, Water Control Law or State regulations;
   b) If problems such as interference, pass-through, violations of water quality standards or sludge contamination develop or continue; or
   c) If federal, state, or local requirements change.

E. Land Application of Sewage Sludge: Management and Reporting Requirements

1. By June 4, 2010, the permittee shall submit for review and approval a revised Sludge Management Plan (SMP) to DEQ-NRO that includes the new field information. The SMP shall include information on sewage sludge sampling and testing, operational testing and control, and record keeping necessary to document the quality and proper use and disposal of the sewage sludge. The permittee shall conduct use and disposal activities in accordance with the approved SMP.

2. The permittee shall develop a Nutrient Management Plan (NMP) for each land application site and submit the NMP to the DEQ Northern Regional Office for review at least 30 days prior to land application on the site. Copies of the NMP shall be provided to the farmer/operator of the site, the Department of Conservation and Recreation regional office and the chief executive officer or designee for the local government, unless they request in writing not to receive the NMP. The NMP shall be enforceable through this permit.

   The nutrient management plan shall be prepared and revised by a certified nutrient management planner as stipulated in regulations promulgated pursuant to §10.1-104.2 of the Code of Virginia. Supplemental

commercial fertilizer or manure applications shall be coordinated with the biosolids applications such that the total nutrient application rates are not exceeded as identified in the nutrient management plan.

Where land application of biosolids is to be performed more frequently than once every three years at greater than 50% of the annual agronomic rate; or where the owner or lessee of the land application site is the operator of a confined animal feeding operation in accordance with §62.1-44.17:1 of the Code of Virginia; or where site-specific conditions demonstrate an increased risk to state waters as determined by DEQ, the permittee shall submit an NMP that has been approved by the Virginia Department of Conservation and Recreation (DCR) with a copy of the approval letter at the time of any permit modification requests to DEQ.

3. Sludge shall be applied only at the sites identified in the approved NMP.

4. The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

5. The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any proposed changes in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and submitted for DEQ and Department of Health approval 90 days prior to the effective date of the changes. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or alternatively revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

6. Sewage sludge shall not be applied to the land if it is likely to adversely affect a threatened or endangered species listed under Virginia Water Quality Standards Regulation (9 VAC 25-260-00 et deq.) or Section 4 of the Endangered Species Act or if the land application is likely to adversely affect its designated critical habitat.

7. Application of sludge shall be on an infrequent (once per three year) basis. None of the sites listed in the SMP, which previously received a complete application of sludge, shall be used again until at least three years after the date of the last application. For the purposes of this special condition, a complete sludge application shall be defined as the sum of all sludge applications made within a 12 month period, regardless of whether or not the target level of nutrient addition was achieved.

8. The permittee shall provide written notification to the DEQ Northern Regional Office at least 14 days prior to commencing land application of biosolids at each permitted site. The notice shall contain the following information:
    a. permitted site identification,
    b. permitted site location, to include:
        i. county
        ii. route number/road name
        iii. latitude/longitude coordinates in decimal degrees that represent a location within the boundaries of the site
    c. approximate dates of application, and
    d. expected sources of biosolids.

9. At least 48 hours prior to the delivery of biosolids to each land application site, the permittee shall post a sign at the site notifying the public that biosolids will be applied. The sign shall be maintained at the site during the application and for at least 48 hours after the biosolids application has been completed.

a. The sign shall be visible and legible from the public road adjacent to the field, or the intersection of the public road and the main access road or driveway to the site. Upon the request of the permittee, the department may grant a waiver to this or any other signage requirement, or require alternative posting options due to extenuating circumstances.
b. The sign shall be weather-resistant and sturdy enough to remain in place and legible throughout the period that the sign is required at the site. The sign shall be at least four square feet in area and shall only contain the following information:
   i. A statement that biosolids are being land-applied at the site;
   ii. The name and telephone number of the permit holder;
   iii. The name or title, and telephone number of an individual designated by the permit holder to respond to complaints and inquiries;
   iv. Contact information for the Virginia Department of Environmental Quality Northern Regional Office, including a telephone number for complaints and inquiries.

10. The permittee shall submit, either via postal service (postmark) or electronically, a monthly activity report to the DEQ NRO Regional Office and Office of Land Application by the 15th day of the month, for land application activities that occurred in the previous calendar month.

    The monthly activity report shall include the following information:
    a. Name of Permittee, DEQ permit number and dates of activity.
    b. Name and certificate number of the certified land applicators with a signed statement attesting that they were onsite at the times of the reported applications and that those applications were in compliance with the permit.
    c. Identification of land application site, including the county where taxes are remitted and permitted site identification name, letters and numbers, as appropriate.
    d. The source of biosolids and approximate field area (reported to the nearest 0.1 acres) receiving those biosolids.
    e. The amount of biosolids applied in dry tons and the method and calculations used to determine the reported value. Dry ton value shall be reported to the nearest 0.01 dry tons.
    f. Dates and type of any interactions with local monitors and names of individuals involved in the interactions.
    g. Name of responsible representative of permittee and a statement signed and dated by that representative indicating that the information submitted has been verified by that representative as correctly reported in accordance with the Part II. K.
    h. Presentation of the calculation of the total fee.
    i. A summary list of the total amount of biosolids applied and the calculated fee broken down by County, presented in alphabetical order by county.

    Complete records of land application activities, including amount of biosolids land applied, shall be maintained for five years after the application, in a form that is available for inspection by the Department.

11. As the generator of the biosolids land applied, the permittee shall remit to the DEQ a fee of $7.50 per dry ton of biosolids applied in the Commonwealth of Virginia.
    a. The permittee shall submit a monthly activity report to DEQ by the 15th day of the month for the land application activities of the previous month, in accordance with Part I.F.10. (<= special condition for Monthly Activity Report). Upon reviewing the report, DEQ will notify the permittee of the fee that is due and set a due date. Failure to submit payment within 60 days of notification by DEQ of the fee due may result in the permit being revoked or approved sources being reclassified as unapproved.
    b. Alternatively, the permittee may submit the payment with the monthly activity report, based on the calculation in Part I.F.10.h. (<= special condition under Monthly Activity Report).
    c. The check or money order shall be payable to the "Treasurer of Virginia", and mailed with invoice to:

Department of Environmental Quality
Receipts Control
P.O. Box 1104
Richmond, VA 23218

12. The permittee shall ensure that no land application activities occur unless a certified land applicator (as specified in Article 5 of the VPA Permit Regulation 9VAC25-32 Section 690 through 760) is onsite at all times during such land application. Certified land applicators may be considered to be onsite if they are at the site permitted for land application and, if it is necessary to leave the site, they are available within 30 minutes to return to the site to verify and ensure that land application of biosolids is in compliance with the permit.

13. Land application activities shall comply with the operational requirements of Part IX: Biosolids Program of the VPA Permit Regulation 9VAC25-32 (Sections 310 through 760) in effect as of the effective date of this permit, unless there are specific exceptions listed below:

14. Operational limitations during periods of inclement weather.

    a) Sludge shall not be applied during times when the ground is saturated.
    b) Surface application of sludge shall not be made to cultivated or bare ground covered with ice. However, sludge may be applied to snow covered ground if snow cover does not exceed an average depth of one inch and the snow and sludge are incorporated within 24 hours of application.
    c) Sludge may be applied to frozen ground only under the following conditions:
        1) solids content of the sludge is greater than 15%,
        2) slopes are not greater than 5%,
        3) a minimum of a 200 foot vegetative (or at least 60% uniformly covered by stalks or other vegetation) buffer is maintained from all surface water courses,
        4) only those soils characterized by the USDA as "well drained" are utilized,
        5) stalks, vines, stubble or other vegetation or crop residue provides uniform soil coverage of at least 60% and is sufficient to prevent surface runoff.

15. Sludge shall be direct injected or incorporated (mixed within the normal plow level) within 48 hours if applied on sites with less than 60% uniform soil coverage by crop residue, stalks, vines, stubble, or other vegetation within any portion of the permitted site or if applied to areas subject to frequent flooding as defined by soil survey information.

16. Sludge shall not be applied to sites where slopes exceed 15%. During the period of November 16 to March 15 of the following year, when sludge is applied to site slopes between 7% and 15%, one of the following best management practices shall be used to prevent runoff and soil loss:
    a) Sludge is surface applied or subsurface injected beneath an established living crop such as hay, pasture, or timely planted small grain or cover crop;
    b) Sludge is surface applied or subsurface injected so that immediately after application the crop residue still provides at least 60% soil surface coverage; or
    c) Sludge is applied by surface application or subsurface injection and the site is operated in compliance with an existing soil conservation plan approved by the USDA Natural Resource Conservation Service and will remain in compliance after any subsequent tillage operation to incorporate the sludge.

    During the period of November 16 to March 15 of the following year, if site slopes between 5% and 7%, sludge can be applied by surface application or subsurface injection followed by:
    a) Incorporation within 48 hours of application if crop residue still provides at least 30% soil surface coverage immediately following incorporation; or
    b) Ridge tilling or chisel plowing within 48 hours of application.

17. Land application of sewage sludge shall not occur within the following minimum buffer zones:

Adjacent Features	Minimum Distance (feet) to Land Application Area		
	Surface Application[1]	Incorporation	Winter[2]
Occupied dwellings*	200	200	200
Water supply wells and springs	100	100	100
Property Lines*	100	50	100
Perennial streams and other surface waters except intermittent streams	50	35	100
Intermittent streams/drainage ditches	25	25	50
All improved roadways	10	5	10
Rock outcrops and sinkholes	25	25	25
Agricultural drainage ditches with slopes equal to or less than 2.0%	10	5	10

[1]Not plowed or disked to incorporate within 48 hours.
[2]If surface application occurs on average site slope greater than 7% during the time between November 16 of one year and March 15 of the following year
*These buffer zones may be reduced if adjoining property owner/resident agrees in writing.

18. All vehicles that transport sludge shall be sufficiently sealed to prevent leaking and spillage of sludge. Totally enclosed, water tight transport vehicles with rigid tops shall be provided for liquid sludge to prevent spillage.

19. Soil pH results at the time of application shall not be over 1 year old.

20. All fields which exhibit a soil pH of 6.8 or greater shall not receive any application of sludge with a calcium carbonate equivalency (Ca CO3) of 20% or greater. All fields which exhibit a soil pH less than 6.8, shall receive an application of sludge in accordance with calculated rate derived from the following table:

Initial Soil pH	Soil Type	
	Coarse Texture	Fine Texture
	Lime (CaCO3) Tons/Acre	
4.8	4.25	5.75
5.0	4.0	5.25
5.5	3.0	4.0
6.0	2.0	2.75
6.5	1.25	1.5

The calculated rate and the actual application rate shall be recorded and maintained on site. Coarse texture soils include those surface soils designated by USDA NRCS as sandy loam or lighter in texture; fine texture soils include those classified as having textures heavier than sandy loam.

21. The application of sludge together with any other source of PAN shall not exceed the agronomic loading rate for the crops grown on each site. The sludge application rates shall be calculated for each field based upon the PAN and productivity class table provided in Table I and Table II. Legume nitrogen credits shall be made for sites where legumes have been grown the previous year in accordance with Table III. Records of the actual sludge application rates should be retained on site for inspection.

22. The rate of application of sludge shall never exceed 15.0 dry tons per acre per three years.

23. The yield goals posted in Table II shall reasonably correspond to site specific yield goals. If the site specific yield goal is lower than the yield listed in Table II, the amount of sludge applied shall be reduced proportionately. In order to justify higher sludge application rates due to higher yield goals than those in Table II, the permittee shall first obtain written verification from the county Extension Agent that the higher yield goal is reasonable.

24. If agricultural practice involves double cropping, the sludge application must be split in accordance with the nitrogen (PAN) requirements of each respective crop.

25. Valid landowner consent forms shall be maintained for all sites not owned by the permittee, as specified in the Sludge Management Plan. The permittee shall immediately notify the regional office of any change in landowner agreement.

26. The permittee shall provide the owner or leaseholder of the land on which the sludge is applied notice and necessary information to comply with the requirements of this permit. Forms for providing this notice and information are included in the instructions for the sludge use and disposal application filed by the permittee.

27. Site Restrictions for Land Application of Class B Sewage Sludge
    a) Food crops with harvested parts that touch the sewage sludge/soil mixture and are totally above the land surface shall not be harvested for 14 months after application of sewage sludge;
    b) Food crops with harvested parts below the surface of the land shall not be harvested for 20 months after application of sewage sludge when the sewage sludge remains on the land surface for four months or longer prior to incorporation into the soil;
    c) Food crops with harvested parts below the surface of the land shall not be harvested for 38 months after application of sewage sludge when the sewage sludge remains on the land surface for less than four months prior to incorporation into the soil;
    d) Food crops, feed crops, and fiber crops shall not be harvested for 30 days after application of sewage sludge;
    e) Animals shall not be allowed to graze on the land for 30 days after the application of sewage sludge;
    f) Turf grown of land where sewage sludge is applied shall not be harvested for one year after application of the sewage sludge when the harvested turf is placed on either land with a high potential for public exposure or a lawn, unless otherwise specified by the State Water Control Board.
    g) Public access to land with a high potential for public exposure shall be restricted for one year after application of sewage sludge;
    h) Public access to land with a low potential for public exposure shall be restricted for 30 days after application of sewage sludge.

28. Sludge Reporting Requirements for Land Application:

    a) Reporting Responsibilities:

    Reporting responsibilities are for POTWs with a design flow rate equal to or greater than 1 MGD (majors), POTWs that serve a population of 10,000 or greater, and Class I Sludge management facilities. A permit special condition which requires these generators to submit an annual report no later than February 19 of each year is included. The Louisa Regional WWTP shall use the Discharge Monitoring Report (DMR) forms as part of the annual report. A sample form (SP1 and S01) with proper DMR parameter codes and its instructions are provided. In addition to the DMR forms, the generators who land apply sewage sludge are responsible for submitting the additional information required by 9 VAC 25-31-590, i.e., appropriate certification statements, descriptions of how pathogen and vector attraction reduction requirements are met, descriptions of how the

management practices (if applicable) are being met, and descriptions of how site restrictions (if applicable) are being met.

b) Record Keeping:

The permittee is required to retain the following information for at least 5 years:

a) The concentrations of each pollutant in Part I. A.2.
b) A description of how the pathogen reduction requirements in Part I.A.3. are met;
c) A description of how the vector attraction reduction requirements in Part I.A.3. are met;
d) A description of how the management practices specified in the approved Sludge Management Plan and/or this permit are met;
e) A description of how the site restrictions specified in the approved Sludge Management Plan and/or this permit are met; and
f) The following certification statement:

"I certify, under penalty of law, that the information that will be used to determine compliance with the pathogen requirements in 9 VAC 25-31-710 B, vector attraction reduction requirements in [permittee shall insert one of the vector attraction reduction requirements in 9 VAC 25-31-720 B 1 through B 10], the management practices in 9 VAC 25-31-550, and the site restrictions in 9 VAC 25-31-710 B 5 was prepared under my direction and supervision in accordance with the system designed to ensure that qualified personnel properly gather and evaluate this information. I am aware that there are significant penalties for false certification including the possibility of fine and imprisonment."

c) Reporting Land Application of Sewage Sludge:

The permittee shall provide the results of all monitoring performed in accordance with Part I.A.3 and Part I.A.4, and information on management practices, land application sites, site restrictions (if applicable), and appropriate certifications not later than February 19 of each year to the Northern Regional Office of the Department of Environmental Quality. Each report is for the previous calendar year's activity. If no sewage sludge was applied to the land during the reporting period, "no sewage sludge was applied" shall be reported.

F. Other Requirements

1. 95% Capacity Reopener

A written notice and a plan of action for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ-NVRO when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ-NRO no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. Indirect Dischargers

The permittee shall provide adequate notice to the Department of the following:

a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of Clean Water Act and the State Water Control Law if it were directly

discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of this permit.

c. Adequate notice shall include information on (i) the quality and quantity of effluent introduced into the treatment works, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the treatment works.

3. O&M Manual Requirement

The permittee shall review the existing Operations and Maintenance (O&M) Manual and notify the DEQ Northern Regional Office, in writing, whether it is still accurate and complete by June 4, 2010. If the O&M Manual is no longer accurate and complete, a revised O&M Manual shall be submitted for approval to the DEQ Northern Regional Office within 90 days of the effective date of the permit. The permittee will maintain an accurate, approved O&M Manual for the treatment works. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

a. Treatment system design, treatment system operation, routine preventative maintenance of units within the treatment system, critical spare parts inventory and record keeping;
b. Techniques to be employed in the collection, preservation and analysis of effluent samples (and sludge samples if sludge analyses are required);
c. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters;
d. A plan for the management and/or disposal of waste solids, residues, /Residue/Sludge Management and Disposal Plan; and
e. Discussion of Best Management Practices, if applicable.

Any changes in the practices and procedures followed by the permittee shall be documented and submitted for staff approval within 90 days of the effective date of the changes. Upon approval of the submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the O&M Manual shall be deemed a violation of the permit.

4. CTC and CTO Requirement

The permittee shall, in accordance with *Sewage Collection and Treatment* regulation (9 VAC 25-790) obtain a Certificate to Construct (CTC) and a Certificate to Operate (CTO) from the Department of Environmental Quality prior to constructing wastewater treatment works and operating the treatment works respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

5. Licensed Operator Requirement

The permittee shall employ or contract at least one wastewater works operator who holds a current wastewater license appropriate for the permitted facility. A Class III licensed operator is required for the 0.4 MGD facility. A Class II licensed operator is required for the 0.8 MGD facility. The license shall be issued in accordance with Title 54.1 of the Code of Virginia and the Regulations of the Board for Waterworks and Wastewater Works Operators (18 VAC 160-20-10-et seq.). The permittee shall notify DEQ in writing whenever he is not complying, or has grounds for anticipating he will not comply with this requirement. The notification shall include a statement of reasons and a prompt schedule for achieving compliance.

6. Reliability Class

The permitted treatment works shall meet a Reliability Class I.

7. Water Quality Criteria Reopener

Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

8. Nutrient Reopener

This permit may be modified or, alternatively, revoked and reissued:

a. If any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements;
b. To incorporate technology-based effluent concentration limitations for nutrients in conjunction with the installation of nutrient control technology, whether by new construction, expansion or upgrade, or
c. To incorporate alternative nutrient limitations and/or monitoring requirements, should:
   i. the State Water Control Board adopt new nutrient standards for the water body receiving the discharge, including the Chesapeake Bay or its tributaries, or
   ii. a future water quality regulation or statute require new or alternative nutrient control.

9. E3/E4

The annual average concentration limitations for Total Nitrogen and/or Total Phosphorus are suspended during any calendar year in which the facility is considered by DEQ to be a participant in the Virginia Environmental Excellence Program in good standing at either the Exemplary Environmental Enterprise (E3) level or the Extraordinary Environmental Enterprise (E4) level, provided that the following conditions have also been met:

a. The facility has applied for (or renewed) participation, been accepted, maintained a record of sustained compliance and submitted an annual report according to the program guidelines;
b. The facility has demonstrated that they have in place a fully implemented environmental management system (EMS) with an alternative compliance method that includes operation of installed nutrient removal technologies to achieve the annual average concentration limitations; and
c. The E3/E4 designation from DEQ and implementation of the EMS has been in effect for the full calendar year.

The annual average concentration limitations for Total Nitrogen and/or Phosphorus, as applicable, are not suspended in any calendar year following a year in which the facility failed to achieve the annual average concentration limitations as required by b. above.

10. Nutrient Offsets

Any annual Total Nitrogen and/or Total Phosphorus loadings above and beyond those permitted prior to July 1, 2005 shall be offset subject to a DEQ-approved trading contract prepared in accordance with 62.1-44.19:12 - :19 of the Law and 9 VAC 25-820-10 et seq., and which includes, but not limited to, the following:

a. Discussion of the source of the acquired allocations,
b. Discussion of other permitted facilities involved in the trade, and
c. Discussion of any non-point source allocations acquired.

This proposal shall provide for the waste loads that are projected to be discharged on an annual basis for the term of this permit, and shall be approved prior to the commencement of discharge from the new or expanded facility. Once approved, the conditions of the proposal pertaining to verification of non-point allocations acquired, or self-offsetting practices implemented, become an enforceable part of this permit.

11. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or alternatively revoked and reissued if any approved wasteload allocation procedure, pursuant to Section 303(d) of the Clean Water Act, imposes wasteload allocations, limits or conditions on the facility that are not consistent with the permit requirements.

Table I, Recommended Plant Available Nitrogen (PAN) Application Rates

in pounds of Nitrogen (N) per acre for Various Non-Irrigated Crops(1)

Crop	Soil Productivity Group								
	I		II		III		IV		V
	A	B	A	B	A	B	A	B	
	Lbs N/acre								
Corn grain or silage	160 to 180	150 to 170	140 to 160	130 to 150	120 to 140	110 to 130	100 to 120	85 to 105	65 to 85
Grain sorghum	140	130	120	110	100	95	90		80
Full season Soybeans (2)	160 to 180	150 to 170	140 to 160	130 to 150	120 to 140	110 to 130	100 to 120	85 to 105	65 to 85
Canola (3)	100		90		80		60		60
Wheat	100		90		80		60		60
Barley	90		80		80		60		60
Rye	75		75		75		75		75
Oats	80		80		80		60		60
Tallgrass Hay (4)	250		250		200		160		160
Bermudagrass Hay	300		300		260		210		210
Pasture (5) Fescue/Orchardgrass	120		120		100		80		80
Bermudagrass Pasture	200		200		160		120		120
Alfalfa	300		300		210		150		150
Sudangrass, sudansorghum, millet (6)	70		70		70		70		70
Stockpiled tall fescue (summer application by August 31)	90		90		90		60		60

Notes:

(1) For proposed use of crops or PAN rates (lbs/ac) not included in the tables, adequate yield and PAN data are to be submitted for staff approval prior to land application.

(2) For double crop or late beans planted after 6/21, (of any year,) allowable PAN rates are the lowest of the listed values, as rounded to nearest factor of ten.

(3) For fall applications, may sidedress up to 60 lbs fertilizer N/ac in late February before spring growth begins.

(4) Apply listed PAN rate when application occurs between 3/1 and 9/30 in any year and apply only one-half of listed PAN rates if application will occur between 10/1 of any year and 2/28 of the following year, with remaining PAN applied after 3/1 of that following year.

(5) For frequent applications apply 60 lbs PAN/ac per year. Following infrequent application rate, subsequent frequent applications should be adjusted on a case-by-case basis, accounting for residual from other wastes and crops.

(6) Sudangrass, sudan-sorghrum and pearl millet may receive a PAN rate of 120 lbs/ac if the application occurs between 3/1 and 6/1 of any year and two cuttings are to be made, weather permitting. For Foxtail or German Millet, cut only once, application will be limited to a PAN rate of 70 LBS/ac.

Table II, Estimated Yields

in Bushels (bu) or Tons (T) per acre (ac) of Various Non-Irrigated Crops for identified Soil Productivity Groups

Crop	Soil Productivity Group								
	I		II		III		IV		V
	A	B	A	B	A	B	A	B	
Corn grain (bu/ac)	160	150	140	130	120	110	100	85	65
Silage (T/ac)	21	20	19	18	17	16	15	13	10
Grain sorghum (bu/ac)	140	130	120	110	100	90	90		80
Soybeans (bu/ac)									
Early Season	50	45	40	40	35		25		20
Late Season (1)	40	34	34	30	25		18		15
Canola (2)	UNDETERMINED AT THIS TIME								
Wheat (bu/ac)									
Standard	64		56		48		40		24
Intensive	80		70		60		50		30
Barley (bu/ac)									
Standard	100		70		60		50		30
Intensive	115		88		75		63		38
Oats	80		80		80		60		60
Tallgrass Hay (T/ac)	>4		3.5-4	3-3.5	<3		NA		NA
Bermudagrass Hay (T/ac)	>6		4-6		<4		NA		NA
Alfalfa (T/ac)	>6		4-6		<4		NA		NA

Notes:
(1) Late season beans would be planted on or after 6/21 of that year.

(2) Sufficient Yield Data not currently available.

Table III, Residual Plant Available Nitrogen (PAN)

remaining from growth of various Legumes during the previous year (1)

Crop	%Stand	Yield Description	Residual PAN (lb/ac)
Alfalfa	50-75	Good (>4T/ac)	90
	25-49	Fair (3-4T/ac)	70
	<25	Poor (<3T/ac)	50
Red Clover	>50	Good (>3T/ac)	80
	25-49	Fair (2-3T/ac)	60
	<25	Poor (<2T/ac)	40
Hairy Vetch	80-100	Good	100
	50-79	Fair	75
	<50	Poor	50
Peanuts			45
Soybeans			20 (2)

Notes:
(1) The Residual PAN values must be subtracted from the recommended PAN rates to determine sludge application rates following growth of Legume Crops the previous year.

(2) Where yield data is available, utilize 0.5 pounds per bushel.

Table IV, Methods of Sewage Sludge Analysis

Pollutant	Analytical Method	Maximum Holding Time, Sample Preservation, Container, Preparation	Comments
Arsenic	AA Furnace SW-846 Method 7060	6 months Plastic or Glass Container Samples need to be digested prior to analysis	All samples must be digested using SW-846 Method 3050 or 3051 prior to analysis by any of the procedures indicated. The AA Direct Aspiration analyses are applicable at moderate concentration levels in clean complex matrix systems. AA Furnace methods can increase sensitivity if matrix effects are not severe. Inductively Coupled Plasma (ICP) methods are applicable over a broad linear range and are especially sensitive for refractory elements. Detection limits for ICP methods are generally higher than for AA Furnace methods
	AA Gaseous Hydride SW-846 Method 7061		
	ICP SW-846 Method 6010		
Cadmium	AA Direct Aspiration SW-846 Method 7130		
	AA Furnace SW-846 Method 7131		
	ICP SW-846 Method 6010		
Copper	AA Direct Aspiration SW-846 Method 7210		
	AA Furnace SW-846 Method 7211		
	ICP SW-846 Method 6010		
Lead	AA Direct Aspiration SW-846 Method 7420		
	AA Furnace SW-846 Method 7421		
	ICP SW-846 Method 6010		
Mercury	Cold Vapor (Manual) SW-846 Method 7470 SW-846 Method 7471	28 Days Cool to 4°C Plastic or Glass Container	SW-846 Method 7470 applies to liquid wastes. SW-846 Method 7471 applies to mercury in solid or semisolid wastes. The digestion procedure is contained in the analytical method
Molybdenum	AA Direct Aspiration SW-846 Method 7480	6 Months Plastic or Glass Container Samples need to be digested prior to analysis	All samples must be digested using SW-846 Method 3050 or 3051 prior to analysis by any of the procedures indicated. The AA Direct Aspiration analyses are applicable at moderate concentration levels in clean complex matrix systems. AA Furnace methods can increase sensitivity if matrix effects are not severe. Inductively Coupled Plasma (ICP) methods are applicable over a broad linear range and are especially sensitive for refractory elements. Detection limits for ICP methods are generally higher than for AA Furnace methods
	AA Furnace SW-846 Method 7481		
	ICP SW-846 Method 6010		
Nickel	AA Direct Aspiration SW-846 Method 7520		
	ICP SW-846 Method 6010		
Selenium	AA Furnace SW-846 Method 7740 or 7951		
	AA Gaseous Hydride SW-846 Method 7741		
	ICP SW-846 Method 6010		
Zinc	AA Direct Aspiration SW-846 Method 7950		
	ICP SW-846 Method 6010		

Pollutant	Analytical Method	Maximum Holding Time, Sample Preservation, Container, Preparation	Comments
Total Solids, Volatile Solids, Fixed Solids	Gravimetric SM-2540 G	7 Days Cool to 4° C Plastic or Glass Container	Recommended procedure for solid and semisolid samples
Fecal Coliform	SM-9221 E (MPN) SM-9222 D (Membrane Filter)	24 Hours Cool to 4° C Plastic or Glass Container	Both procedures are very temperature sensitive. Samples must be analyzed with holding times.
Salmonella	SM-9260 D 1 Kenner and Clark	24 Hours Plastic or Glass Container	Large sample volumes are needed due to the low concentration of Salmonella in wastewater. Also, due to the large number of Salmonella species, more than one procedure may be necessary to adequately determine the Salmonella's presence.
Enteric Viruses	ASTM Method D 4994-89	2 Hours at up to 25° C or 48 Hours at 2 to 10 ° C	Concentration of the sample is necessary due to the presumably low numbers of viruses in the sample.
Helminth Ova	Yanko, W.A.		See Reference
Specific Oxygen Uptake Rate	SM-2710 B	Perform as soon as possible Plastic or Glass Container	Sensitive to sample temperature variation and lag time between sample collection and test initiation. Replicate samples are suggested.
Percent Volatile Solids	ERT		See Reference
Total Kjeldahl Nitrogen (TKN)	SM-4500 N_{org} EPA-351.3	28 Days Cool to 4° C Plastic or Glass Container	Total kjeldahl nitrogen is the sum of organic and ammonia nitrogen in a sample. Sample digestion and distillation are required and are included or referenced in the method.
Ammonia Nitrogen (NH_3-N)	SM-4500 NH_3	28 Days Cool to 4° C Plastic or Glass Container	All samples must be digested using procedure SM-4500-NH_3B prior to analysis by one of the specific analysis procedures listed.
Nitrate Nitrogen (NO_3-N)	SM-4500 NO_3 SW-846 Method 9200	28 Days Cool to 4° C Plastic or Glass Container	Nitrate nitrogen is the fully oxidized state of nitrogen. Organics may interfere with the method.
Total Phosphorus	SM-4500 P	28 Days Cool to 4° C Plastic or Glass Container	
Total Potassium	SM-3500 K	28 Days Cool to 4° C Plastic or Glass Container	
Alkalinity	SM-2320 EPA 310.1	28 Days Cool to 4° C Plastic or Glass Container	
Calcium Carbonate Equivalence (CCE)	AOAC 955.01	28 Days Cool to 4° C Plastic or Glass Container	

Table V, Methods of Soil Analysis at Land Application Sites

Soil Property	Analytical Method	Extraction and/or Digestion Procedure	Comments
PH	EPA-9045	1:1 Soil/Water	A soil pH at or above 6.5 minimizes metal uptake by crops
Cation Exchange Capacity (CEC)	Sodium Acetate EPA-9080	Extract with 1N NAOAc	Needed to determine the soil's ability to attenuate heavy metal cations. The cation change capacity can be determined by summing the soil test results of the individual cations.
	Ammonium Acetate EPA-9080		
	ASA Exchangeable Cations		
Plant Available Nitrogen	N Ammonia,Distillation Nesslerization SM-43500 NH_3 A, B, C	Ammonia and Nitrate Extract with KCl	Inorganic nitrogen (NH_4+,NO_3-) is readily available for plant uptake.
	N Nitrate Electrode Method SM-4500 NO_3 A, D		
Plant Available Phosphorus	SM-4500 P A, B, C, D, E	Extract with 0.03 N NH_4F+HCl (Weak Bray) Extract with dilute HCl+H_2SO_4 (Mehlich I) Extract with 0.5M $NaHCO_3$ Extract with water	
Background Metal Analysis	Metals should be analyzed by methods prescribed in Standards Methods, 17th Edition and SW-846	Metals samples must be digested prior to analysis.	

Analytical Methods References

EPA -Methods for Chemical Analysis of Water and Wastes, U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory-Cincinnati (EMSL-Cl), EPA-600/4-79-020, March 1983).

SM -Standard Methods for the Examination of Water and Wastewater, 18th Edition. American Public Health Association, Washington, D.C., 1992.

SW-846 -Test Methods for Evaluation Solid Waste: Physical/Chemical Methods, U.S. Environmental Protection Agency, November 1986.

ASTM -"Standard Practice for Recovery of Viruses from Wastewater Sludge," Annual Book of ASTM Standards, Section 11, Water and Environmental Technology, 1992.

USGS -Fishman, M.J., et al, "Methods for Analysis of Inorganic Substances in Water and Fluvial Sediments," U.S. Department of the Interior, Techniques of Water Resource Investigations of the U.S. Geological Survey, Denver, Colorado, 1989.

KC -Kenner, B.A. and H.A. Clark, "Determination and Enumeration of Salmonella and Pseudomonas Aeruginosa," J. Water Pollution Control Federation, 46(9):2163-2171, 1974.

Yanko -Yanko, W.A., Occurrence of Pathogens in Distribution and Marketing Municipal Sludges, EPA 600/1-87-014, 1987. NTIS PB 88-154273/AS, National Technical Information Service, Springfield, Virginia.

ERT -Environmental Regulations and Technology - Control of Pathogens and Vectors in Sewage Sludge, U.S. Environmental Protection Agency, Cincinnati, Ohio, EPA-625/R-92/013, 1992.

AOAC -Official Methods of Analysis, 15th Edition, Association of Official Analytical Chemists, 1990.

ASA -Methods of Soil Analysis, Agronomy Monograph Number 9, 2nd Edition, American Society of Agronomy, Madison, Wisconsin, 1992.

CONDITIONS APPLICABLE TO ALL VPDES PERMITS

A. Monitoring

1. Samples and measurements taken as required by this permit shall be representative of the monitored activity.
2. Monitoring shall be conducted according to procedures approved under Title 40 Code of Federal Regulations Part 136 or alternative methods approved by the U.S. Environmental Protection Agency, unless other procedures have been specified in this permit.
3. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals that will insure accuracy of measurements.

B. Records

1. 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) and time(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.

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, 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 of retention shall be extended automatically during the course of any unresolved litigation regarding the regulated activity or regarding control standards applicable to the permittee, or as requested by the Board.

C. Reporting Monitoring Results

1. The permittee shall submit the results of the monitoring required by this permit not later than the 10th day of the month after monitoring takes place, unless another reporting schedule is specified elsewhere in this permit. Monitoring results shall be submitted to:

   Department of Environmental Quality - Northern Regional Office (DEQ-NRO)
   13901 Crown Court
   Woodbridge, VA 22193

   Monitoring results shall be reported on a Discharge Monitoring Report (DMR) or on forms provided, approved or specified by the Department.

2. If the permittee monitors any pollutant specifically addressed by this permit more frequently than required by this permit using test procedures approved under Title 40 of the Code of Federal Regulations Part 136 or using other test procedures approved by the U.S. Environmental Protection Agency or using procedures specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or reporting form specified by the Department.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in this permit.

D. Duty to Provide Information.

The permittee shall furnish to the Department, within a reasonable time, any information which the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The Board may require the permittee to furnish, upon request, such plans, specifications, and other pertinent information as may be necessary to determine the effect of the wastes from this discharge on the quality of state waters, or such other information as may be necessary to accomplish the purposes of the State Water Control Law. The permittee shall also furnish to the Department upon request, copies of records required to be kept by this permit.

E. Compliance Schedule Reports

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 schedule date.

F. Unauthorized Discharges

Except in compliance with this permit, or another permit issued by the Board, it shall be unlawful for any person to:

1. Discharge into state waters sewage, industrial wastes, other wastes, or any noxious or deleterious substances; or
2. Otherwise alter the physical, chemical or biological properties of such state waters and make them detrimental to the public health, or to animal or aquatic life, or to the use of such waters for domestic or industrial consumption, or for recreation, or for other uses.

G. Reports of Unauthorized Discharges.

Any permittee who discharges or causes or allows a discharge of sewage, industrial waste, other wastes or any noxious or deleterious substance into or upon state waters in violation of Part II.F.; or who discharges or causes or allows a discharge that may reasonably be expected to enter state waters in violation of Part II.F., shall notify the Department of the discharge immediately upon discovery of the discharge, but in no case later than 24 hours after said discovery. A written report of the unauthorized discharge shall be submitted to the Department, within five days of discovery of the discharge. The written report shall contain:

1. A description of the nature and location of the discharge;
2. The cause of the discharge;
3. The date on which the discharge occurred;
4. The length of time that the discharge continued;
5. The volume of the discharge;
6. If the discharge is continuing, how long it is expected to continue;
7. If the discharge is continuing, what the expected total volume of the discharge will be; and
8. Any steps planned or taken to reduce, eliminate and prevent a recurrence of the present discharge or any future discharges not authorized by this permit.

Discharges reportable to the Department under the immediate reporting requirements of other regulations are exempted from this requirement.

H. Reports of Unusual or Extraordinary Discharges.

If any unusual or extraordinary discharge including a bypass or upset should occur from a treatment works and the discharge enters or could be expected to enter state waters, the permittee shall promptly notify, in no case later than 24 hours, the Department by telephone after the discovery of the discharge. This notification shall provide all available details of the incident, including any adverse affects on aquatic life and the known number of fish killed. The permittee shall reduce the report to writing and shall submit it to the Department within five days of discovery of the discharge in accordance with Part II.I.2. Unusual and extraordinary discharges include but are not limited to any discharge resulting from:

1. Unusual spillage of materials resulting directly or indirectly from processing operations;
2. Breakdown of processing or accessory equipment;
3. Failure or taking out of service some or all of the treatment works; and
4. Flooding or other acts of nature.

I. Reports of Noncompliance

The permittee shall report any noncompliance which may adversely affect state waters or may endanger public health.

1. An oral report shall be provided within 24 hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which shall be reported within 24 hours under this paragraph:
   a. Any unanticipated bypass; and
   b. Any upset which causes a discharge to surface waters.

2. A written report shall be submitted within 5 days and shall contain:
   a. A description of the noncompliance and its cause;
   b. 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
   c. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

   The Board may waive the written report on a case-by-case basis for reports of noncompliance under Part II.I. if the oral report has been received within 24 hours and no adverse impact on state waters has been reported.

3. The permittee shall report all instances of noncompliance not reported under Parts II, I.1.or I.2., in writing, at the time the next monitoring reports are submitted. The reports shall contain the information listed in Part II.I.2.

NOTE: The immediate (within 24 hours) reports required in Parts II, G., H. and I. may be made to the Department's Northern Regional Office at (703) 583-3800 (voice) or (703) 583-3821 (fax). For reports outside normal working hours, leave a message and this shall fulfill the immediate reporting requirement. For emergencies, the Virginia Department of Emergency Services maintains a 24-hour telephone service at 1-800-468-8892.

J. Notice of Planned Changes.

1. The permittee shall give notice to the Department as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

   a. The permittee plans alteration or addition to any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced:

      1) After promulgation of standards of performance under Section 306 of Clean Water Act which are applicable to such source; or
      2) After proposal of standards of performance in accordance with Section 306 of Clean Water Act which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal;

   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 nor to notification requirements specified elsewhere in this permit; or

   c. 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. The permittee shall give advance notice to the Department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

K. Signatory Requirements.

1. All permit applications shall be signed as follows:

   a. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
      1) 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

      2) The manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

   b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

   c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a public agency includes:

      1) The chief executive officer of the agency, or
      2) A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.

2. All reports required by permits, and other information requested by the Board shall be signed by a person described in Part II.K.1., or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Part II.K.1.;

   b. 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

   c. The written authorization is submitted to the Department.

3. Changes to authorization. If an authorization under Part II.K.2. 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.2. shall be submitted to the Department prior to or together with any reports, or information to be signed by an authorized representative.

4. Certification. Any person signing a document under Parts II, K.1. or K.2. 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."

L. Duty to Comply.

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the State Water Control Law and the Clean Water Act, except that noncompliance with certain provisions of this permit may constitute a violation of the State Water Control Law but not the Clean Water Act. Permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.
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 Clean Water Act within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if this permit has not yet been modified to incorporate the requirement.

M. Duty to Reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit. All permittees with a currently effective permit shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Board. The Board shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

N. Effect of a Permit.

This permit does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorize any injury to private property or invasion of personal rights, or any infringement of federal, state or local law or regulations.

O. State Law.

Nothing in this permit shall be construed to preclude the institution of any legal action under, or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any other state law or regulation or under authority preserved by Section 510 of the Clean Water Act. Except as provided in permit conditions on "bypassing" (Part II.U.), and "upset" (Part II.V.) nothing in this permit shall be construed to relieve the permittee from civil and criminal penalties for noncompliance.

P. Oil and Hazardous Substance Liability.

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Sections 62.1-44.34:14 through 62.1-44.34:23 of the State Water Control Law.

Q. Proper Operation and Maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes effective plant performance, adequate funding, adequate staffing, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit.

R. Disposal of solids or sludges.

Solids, sludges or other pollutants removed in the course of treatment or management of pollutants shall be disposed of in a manner so as to prevent any pollutant from such materials from entering state waters.

S. 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.

T. 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.

U. Bypass.

1. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. 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 Parts II, U.2. and U.3.

2. Notice
   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, prior notice shall be submitted, if possible at least ten days before the date of the bypass.
   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Part II.I.

3. Prohibition of bypass.
   a. Bypass is prohibited, and the Board 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.U.2.

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

V. Upset.

1. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limitations if the requirements of Part II.V.2. are met. A determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is not a final administrative action subject to judicial review.

2. 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;
   c. The permittee submitted notice of the upset as required in Part II.I.; and
   d. The permittee complied with any remedial measures required under Part II.S.

3. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

W. **Inspection and Entry**

The permittee shall allow the Director, or an authorized representative, 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 the State Water Control Law, any substances or parameters at any location.

For purposes of this section, the time for inspection shall be deemed reasonable during regular business hours, and whenever the facility is discharging. Nothing contained herein shall make an inspection unreasonable during an emergency.

X. Permit Actions.

Permits 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.

Y. Transfer of permits

1. Permits are not transferable to any person except after notice to the Department. Except as provided in Part II.Y.2., 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, or a minor modification made, to identify the new permittee and incorporate such other requirements as may be necessary under the State Water Control Law and the Clean Water Act.

2. As an alternative to transfers under Part II.Y.1., this permit may be automatically transferred to a new permittee if:
   a. The current permittee notifies the Department at least 30 days in advance of the proposed transfer of the title to the facility or property;
   b. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
   c. The Board does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in Part II.Y.2.b.

Z. Severability

The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.