DEPARTMENT OF ENVIRONMENTAL QUALITY

KATHLEEN BABINEAUX BLANCO
GOVERNOR

MIKE D. McDANIEL, Ph.D.
SECRETARY

AUG 0 8 2007

CERTIFIED MAIL# 7003 1010 0002 1621 9029
RETURN RECEIPT REQUESTED

FILE NUMBER: LA0115487
AI NUMBER: 90999
ACTIVITY NUMBER: PER20070002

St. Mary Parish Water & Sewer Commission No. 1
Ramos Wetland Assimilation Project
P.O. Box 309
Amelia, LA 70340

Attention: Roland H. Verret, Board President

Subject: Draft Louisiana Pollutant Discharge Elimination System (LPDES) permit to discharge treated sanitary wastewater from a publicly owned treatment works into the Ramos Forested Wetlands, thence into Lake Palourde.

Dear Mr. Verret:

The Department of Environmental Quality proposes to issue an LPDES permit with the effluent limitations, monitoring requirements, and special conditions listed in the attached DRAFT PERMIT. Please note that this is a DRAFT PERMIT only and as such does not grant any authorization to discharge. Authorization to discharge in accordance with this permitting action will only be granted after all requirements described herein are satisfied and by the subsequent issuance of a FINAL PERMIT.

This Office will publish the enclosed public notice one time in a local newspaper of general circulation, and in the Department of Environmental Quality Public Notice Mailing List. A copy of the public notice containing the specific requirements for commenting to this draft permit action will be sent under separate cover at the time the public notice is arranged. In accordance with LAC 33:IX.6521.A, the applicant shall receive and is responsible for paying the invoice(s) from the newspaper(s). LAC 33:IX.6521.A states, "...The costs of publication shall be borne by the applicant."

Pursuant to LAC 33.IX.1309.I, LAC 33.IX.6509.A.1 and LAC 33.I.1701, you must pay any outstanding fees to the Department. Therefore, you are encouraged to verify your facility's fee status by contacting LDEQ's Office of Management and Finance, Financial Services Division at (225) 219-3863. Failure to pay in the manner and time prescribed could result in applicable enforcement actions as prescribed in the Environmental Quality Act, including, but not limited to revocation or suspension of the applicable permit, and/or assessment of a civil penalty against you.

ENVIRONMENTAL **SERVICES**
: PO BOX 4313, BATON ROUGE, LA 70821-4313
P:225-219-3181 F:225-219-3309
WWW.DEQ.LOUISIANA.GOV

The invoice, fee rating sheets, and a copy of the fee regulations will be sent under a separate cover letter as applicable. We must receive your fee payment by check, money order, or draft accompanied by the original and a copy of you invoice. A copy of the entire Louisiana Water Quality Regulations (Volume 14) may be obtained from the DEQ Office of Environmental Assessment, Post Office Box 4314, Baton Rouge, Louisiana 70821-4314, (225) 219-3236.

For sanitary treatment plants, the plans and specifications must be approved by the Department of Health and Hospitals, Office of Public Health, P.O. Box 4489, Baton Rouge, Louisiana 70821-4489, (225) 342-7395.

To ensure that all correspondence regarding this facility is properly filed into the Department's Electronic Data Management System, you must reference your Agency Interest number AI 90999 and LPDES permit number LA0115487 on all future correspondence to this Department, including Discharge Monitoring Reports.

Should you have any questions concerning any part of the DRAFT PERMIT, public notice requirements, or fees, please contact Mr. Eura DeHart, Office of Environmental Services, Water Permits Division, Municipal and General Water Permits Section, at the address on the preceding page or telephone (225) 219-3092.

Sincerely,

Tom Killeen

Tom Killeen, Environmental Scientist Manager
Municipal and General Water Permits Section

ed

Attachments: draft permit, statement of basis/fact sheet, and fee sheet)

ec: Ms. Gayle Denino
Office of Management & Finance

Permit Compliance Unit
Office of Environmental Compliance

For Public Notice
Public Participation Group
Office of Environmental Assistance

Public Health Chief Engineer
Office of Public Health
Department of Health and Hospitals

cc: IO-W

Eura DeHart
Permits Division

DRAFT

PERMIT NUMBER: LA0115487
AGENCY INTEREST NO.: 90999
ACTIVITY NO.: PER20070002

DEQ
LOUISIANA

OFFICE OF ENVIRONMENTAL SERVICES

Water Discharge Permit

Pursuant to the Clean Water Act, as amended (33 U.S.C. 1251 et seq.), and the Louisiana Environmental Quality Act, as amended (La. R. S. 30:2001 et seq.), rules and regulations effective or promulgated under the authority of said Acts, and in reliance on statements and representations heretofore made in the application, a Louisiana Pollutant Discharge Elimination System permit is issued authorizing

St. Mary Parish Water & Sewer Commission No. 1
Ramos Wetland Assimilation Project
P.O. Box 309
Amelia, LA 70340

Type Facility: publicly owned treatment works

Location: 834 Water Works Road, Amelia, St. Mary Parish

Receiving Waters: Ramos Forested Wetlands, thence into Lake Palourde (subsegment 120208)

to discharge in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I, II, and III attached hereto.

This permit shall become effective on

This permit and the authorization to discharge shall expire five (5) years from the effective date of the permit.

Issued on

Chuck Carr Brown, Ph. D.
Assistant Secretary

DRAFT

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning the effective date of the permit and lasting through the expiration date of the permit the permittee is authorized to discharge from:

Outfall 001, treated sanitary wastewater (**estimated flow** is 0.9 MGD).

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

Effluent Characteristic		Discharge Limitations (lbs/day)	Discharge Limitations other units (specify)		Monitoring Requirements	
	Storet Code	Monthly Avg.	Monthly Avg.	Weekly Avg.	Measurement Frequency	Sample Type
Flow-MGD	50050	---	Report	Report	Continuous	Recorder[3]
BOD_5	00310	225	30 mg/l	45 mg/l	1/week	3 Hr. Composite
TSS	00530	676	90 mg/l	135 mg/l	1/week	3 Hr. Composite
Total Nitrogen[2, 6]	00600	report	report mg/l	report mg/l	quarterly	3 Hr. Composite
Total Phosphorus[6]	00665	report	report mg/l	report mg/l	quarterly	3 Hr. Composite
Fecal Coliform colonies/100ml	74055	---	200	400	1/month	Grab
pH (Standard Units)[4]	00400	---	6.0	9.0	1/week	Grab
Wetland Monitoring[1]		---	---	---	N/A	N/A
Total Residual Chlorine[5]	50060	---	No Measurable	No Measurable	1/week	Grab
Priority Pollutants		---	---	Report	1/year	24 Hr. Composite

1 Given the current constraints pertaining to chlorine analytical methods, NO MEASURABLE will be defined as less than 0.1 mg/l of chlorine.

2 Total Nitrogen will be reported as the sum of Total Kjeldal Nitrogen (TKN) plus Nitrate and Nitrite.

3 Includes totalizing meter or totalizer.

4 The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units. The permittee shall report on the Discharge Monitoring Reports both the minimum and maximum instantaneous pH values measured.

5 See Part II, Section B, Wetland System Monitoring Requirements.

6 Data obtained from the TN and TP analysis will be used to derive nutrient loading per square meter of wetlands which will be reported in the Annual Wetland Monitoring Report. If loading rates exceed 15 $g/m^2/yr$ total nitrogen or 4 $g/m^2/yr$ total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.

There is only one outfall. The Water is distributed via a header system over the wetland site and flows toward Lake Palourde. The header system will ensure that the treated effluent is spread evenly over the wetland surface.

The distribution point must be staggered every three months, in the following order: Distribution Point A, Point D, Point B, Point E, Point C, Point F, then repeat the order.

PART II

OTHER REQUIREMENTS

In addition to the standard conditions required in all permits and listed in Part III, the office has established the following additional requirements in accordance with the Louisiana Water Quality Regulations.

SECTION A. GENERAL STATEMENTS

1. The Department of Environmental Quality reserves the right to impose more stringent discharge limitations and/or additional restrictions in the future to maintain the water quality integrity and the designated uses of the receiving water bodies based upon water quality studies. These studies may indicate the need for more advanced wastewater treatment. Studies of similar dischargers and receiving water bodies have resulted in monthly average effluent limitations of 5 mg/l $CBOD_5$, and 2 mg/l NH_3-N. Therefore, prior to upgrading or expanding this facility, the permittee should contact the Department to determine the status of the work being done to establish future effluent limitations and additional permit conditions.

2. This permit does not in any way authorize the permittee to discharge a pollutant not listed or quantified in the application or limited or monitored for in the permit.

3. Authorization to discharge pursuant to the conditions of this permit does not relieve the permittee of any liability for damages to state waters or private property. For discharges to private land, this permit does not relieve the permittee from obtaining proper approval from the landowner for appropriate easements and rights of way.

4. For definitions of monitoring and sampling terminology see Part III, Section F.

5. 24-hour Oral Reporting: Daily Maximum Limitation Violations

   Under the provisions of Part III Section D.6.e.(3) of this permit, violations of daily maximum limitations for the following pollutants shall be reported orally to the Office of Environmental Compliance within 24 hours from the time the permittee became aware of the violation followed by a written report in five days.

   Pollutants: None

6. As an exception to Part III Section D.6.e.(1), the permittee shall report all overflows in the collection system with the Discharge Monitoring Report submittal. These reports shall be summarized and reported in tabular format. The summaries shall include: the date, time, duration, location, estimated volume, and cause of the overflow; observed environmental impacts from the overflow; actions taken to address the overflow; and the ultimate discharge location if not contained (e.g., storm sewer system, ditch, tributary). All other overflows and overflows which endanger human health or the environment must be reported in the manner described in Part III, Section D.6 of the permit.

7. In accordance with La.R.S.40:1149, it shall be unlawful for any person, firm, or corporation, both municipal and private, operating a water supply system or sewerage system to operate same unless the competency of the operator is duly certified to by the State Health Officer. Furthermore, it shall be unlawful for any person to perform the duties of an operator without being duly certified. Therefore, the St. Mary Parish Waste & Sewer Commission No. 1 should take whatever action is necessary to comply with La.R.S. 40:1149.

OTHER REQUIREMENTS (cont.)

8. The permittee shall achieve compliance with the effluent limitations and monitoring requirements specified for discharges in accordance with the following schedule:

EFFECTIVE DATE OF THE PERMIT

9. DISCHARGE MONITORING REPORTS

Monitoring results must be reported on a Discharge Monitoring Report (DMR) form (EPA No. 3320-1 or an approved substitute). All monitoring reports must be retained for a period of at least three (3) years from the date of the sample measurement. The permittee shall make available to this Department, upon request, copies of all monitoring data required by this permit.

If there is a no discharge event at any of the monitored outfall(s) during the reporting period, enter "No Discharge" in the upper right corner of the Discharge Monitoring Report.

Discharge Monitoring Report (DMR) forms shall be prepared and submitted for each outfall per the instructions and submission schedules below:

A. For monitoring frequencies once per month or more often (i.e. 1/week, 1/day, 1/batch, 1/discharge event), one DMR form per month (summarize monitoring results monthly) must be prepared and submitted quarterly.

B. For once per quarter monitoring frequencies, one DMR form per quarter must be prepared and submitted quarterly.

C. For once per 6 months monitoring frequencies, one DMR form per six month period must be prepared and submitted semi-annually.

D. For once per year monitoring frequencies, one DMR form per year must be submitted annually.

Quarterly Submission Schedule

Monitoring Period	DMR Postmark Date
January, February, March	April 28th
April, May, June	July 28th
July, August, September	October 28th
October, November, December	January 28th

Semiannual Submission Schedule

Monitoring Period	DMR Postmark Date
January - June	July 28th
July – December	January 28th

OTHER REQUIREMENTS (cont.)

Annual Submission Schedule

Monitoring Period	DMR Postmark Date
January-December	January 28th

Duplicate copies of DMRs (one set of originals and one set of copies) signed and certified as required by LAC 33:IX.2503, and all other reports (one set of originals) required by this permit shall be submitted to the Permit Compliance Unit (one set of copies) at the following address:

Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312
Attention: Permit Compliance Unit

OTHER REQUIREMENTS (cont.)

SECTION B. MUNICIPAL WATER POLLUTION PREVENTION

Pollution Prevention Requirements

1. The permittee shall institute or continue programs directed towards pollution prevention. The permittee shall institute or continue programs to improve the operating efficiency and extend the useful life of the facility. The permittee will complete an annual Environmental Audit Report **each year** for the life of this permit according to the schedule below. A copy of the Environmental Audit Form has been attached to this permit. Please make additional copies to be utilized for each year of this permit. Additional copies can be obtained upon request.

The audit evaluation period is as follows:

Audit Period Begins	Audit Period Ends	Audit Report Completion Date
Effective Date of Permit	12 Months from Audit Period Beginning Date	3 Months from Audit Period Ending Date

These reports shall discuss the following items:

a. The influent loading, flow, and design capacity of the facility;

b. The effluent quality and plant performance;

c. The age of the wastewater treatment facility;

d. Bypasses and overflows of the tributary sewerage system and treatment works;

e. The ultimate disposition of the sewage sludge;

f. Landfilling of sewage sludge and potential alternatives (if applicable);

g. New developments at the facility;

h. Operator certification and training;

i. The financial status of the facility; and

j. A subjective evaluation of conditions at the facility.

OTHER REQUIREMENTS (cont.)

2. A resolution from the permittee's governing body shall be obtained as part of the Environmental Audit Report. This resolution shall include, at a minimum, the following:

   a. An acknowledgement that the governing body has reviewed the Environmental Audit Report;

   b. A description of actions that the permittee will take to maintain compliance with the permit conditions, and if necessary, include a schedule outlining major projects to be accomplished.

3. The Environmental Audit Report and the governing body's resolution must be signed by a duly authorized representative ~~of the permittee and shall be maintained with the permit and permit related records (i.e. lab data, DMRs), and made~~ available upon request by duly authorized regional inspectors and/or DEQ Headquarters representatives.

OTHER REQUIREMENTS (cont.)

SECTION C. CONTRIBUTING INDUSTRIES AND PRETREATMENT REQUIREMENTS

1. The following pollutants may not be introduced into the treatment facility:

   a. Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit or 60 degrees Centigrade using the test methods specified in 40 CFR 261.21;

   b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;

   c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, resulting in Interference;

   d. Any pollutant, including oxygen demanding pollutants (e.g., BOD5), released in a discharge at a flow rate and/or pollutant concentration which will cause Interference with the POTW;

   e. Heat in amounts which will inhibit biological activity in the POTW resulting in Interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Centigrade (104 degrees Fahrenheit) unless the Approval Authority, upon request of the POTW, approves alternate temperature limits;

   f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

   g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and

   h. Any trucked or hauled pollutants, except at discharge points designated by the POTW.

2. The permittee shall require any indirect discharger to the treatment works to comply with the reporting requirements of Sections 204(b), 307, and 308 of the Clean Water Act, including any requirements established under LAC 33:IX.Chapter 23.Subchapter T.

3. The permittee shall provide adequate notice of the following:

   a. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Sections 301 and 306 of the Clean Water Act 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 the permit.

   c. Any notice shall include information on (1) the quality and quantity of effluent to be introduced into the treatment works, and (2) any anticipated impact of the change on the quality or quantity of effluent to be discharged from the POTW.

OTHER REQUIREMENTS (cont.)

SECTION D. WETLAND SYSTEM MONITORING REQUIREMENTS

1. **MONITORING AND REPORTING shall apply to both wastewater management area and control area as defined in the following chart:**

PARAMETER	WETLAND COMPONENT			
	FLORA	BENTHIC FAUNA	SEDIMENT	SURFACE WATER
Species Classification and Survival	P	P		
Percentage of Whole Cover (for each species)	P	P		
Growth Studies	A_1			
Water Stage				Daily
Metals Analysis: Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se	P_1		P_1	S
Nutrient Analysis I: TKN, TP	P_1		P_1	Q
Nutrient Analysis II: NH_3N, NO_2N, NO_3N, PO_4			P_1	Q
Others: BOD_5, TSS, pH, Dissolved Oxygen				S

If loading rates exceed 15 g/m^2/yr total nitrogen or 4 g/m^2/yr total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.

Water quality will be monitored by taking water samples along the path of flow of the effluent in the Wetland Management Area and from one or more control sites.

- **Sampling and classifying the flora** present and determining percentage of each vegetative species. The sampling will provide information on whether dominance and species diversity of the community is being maintained.
- **Growth studies** of vegetative productivity, which will provide an indication of health and vigor of the plant community.
- **Water stage** is a gauged measurement of the water depth, which will assist in determining stress in the wetlands from hydrologic loadings and will determine the existence of a zone of influence resulting from wastewater applications. The zone around the discharge serves to assimilate the wastewater most effectively. This zone grows larger as wastewater continues to be discharged and the assimilative capacity of the immediate area becomes saturated.
- **Metals and nutrient data from plant tissue samples**, which will identify excesses or deficiencies that could become problematic.
- **Sediment analysis for metals, and nutrients**, which will indicate whether or not metals are bound and buried in the sediments, and nutrients assimilated.
- **Corresponding analysis of surface water** must be made to provide a comparison of water quality in the vicinity of the discharge and at increasing distance from it.

OTHER REQUIREMENTS (cont.)

Compared to data from the baseline study and control area, the effects of the discharge on the biological integrity (as defined above) may be accurately assessed.

Each component listed in the monitoring and reporting table (Part II, Page 4 of 9), shall be reported on a DMR form with the value obtained from the treatment area listed preceding the equivalent value obtained from the control area. Observations in both areas (the treatment area and the control area) shall be averaged for reporting purposes.

Sampling in the **WASTEWATER MANAGEMENT AREA** must be conducted as follows:

Collection of a minimum of three samples per site in each of three sites: 1) 100 meters from the discharge point, 2) midway, and 3) at the point where water leaves the assimilation area.

Sampling in the **CONTROL AREA** must be conducted as follows:

Collection of a minimum of three samples per site in each of the three sites. All samples will be taken from a site or sites similar to the wastewater management area.

A: ANNUALLY. Sample once per year at all three (3) WASTEWATER ASSIMILATION AREA sites and the three (3) CONTROL AREAS and included in the yearly report.

A_1 – Stem growth and litter fall.

M: MONTHLY. Samples should be taken at all three (3) WASTEWATER MANAGEMENT AREAS and the CONTROL AREAS each month and include in the yearly report.

P: PERIODICALLY. Sampling must be made once during March through May, and once during September through November in the fourth year of the permit period for all three (3) WASTEWATER MANAGEMENT AREAS and the CONTROL AREAS.

P_1 – Sample preservation, handling, and analysis must meet the specifications of the Test Methods for Evaluating Solid Waste Physical/Chemical Methods, third edition (EPA Publication Number SW-846, 1986, or most recent revision) or an equivalent substitute as approved by the administrative authority.

S: SEMI-ANNUAL. Sample twice per year: once during September through February, and once during March through August (sampling events must be a minimum of 4 months apart) for all three (3) WASTEWATER MANAGEMENT AREAS and the CONTROL AREAS and included in the yearly report.

Parameters are to be sampled and monitored for the specified wetland component at all wastewater management areas and the control areas.

OTHER REQUIREMENTS (cont.)

WETLAND MONITORING REPORT REQUIREMENT SCHEDULE	
REPORT	DUE DATE
Annual Wetland Monitoring Report[1]	**NO LATER THAN** 30 days past one (1) year from the effective date of the permit
Annual Wetland Monitoring Report[1]	**NO LATER THAN** 30 days past two (2) years from the effective date of the permit
Annual Wetland Monitoring Report[1]	**NO LATER THAN** 30 days past three (3) years from the effective date of the permit
Annual Wetland Monitoring Report[1] and the Fourth Year Wetland Monitoring Report[2]	**NO LATER THAN** 30 days past four (4) years from the effective date of the permit
Annual Wetland Monitoring Report[1]	**NO LATER THAN** 30 days past five (5) years from the effective date of the permit

[1] Annual Wetland Monitoring Report **must be submitted on the attached forms** and shall consist of:

Parameter	Wetland Component
Growth Studies	Flora
Water Stages	Surface Water
Metal Analysis	Surface Water
Nutrient Analysis I	Surface Water
Nutrient Analysis II	Surface Water
Other Parameters	Surface Water
Total Nitrogen and Total Phosphorus Loadings	Assimilation Area

[2] Fourth Year Wetland Monitoring Report **must be submitted on the attached forms** and shall consist of:

Parameter	Wetland Component
Species Classification	Flora
Metal Analysis	Flora & Sediment
Nutrient Analysis I	Flora & Sediment
Nutrient Analysis II	Sediment

In the event that a permit is not reissued in a timely manner, the Annual Wetland Monitoring Report shall be submitted for the years following the expiration date of the permit and shall be due 30 days after the anniversary of the effective date of this permit.

OTHER REQUIREMENTS (cont.)

A copy of each report required by this permit shall be submitted to the Permits Compliance Unit, and shall also be submitted to the Permits Division and Planning Division at the following addresses:

Louisiana Department of Environmental Quality
Office of Environmental Compliance
Enforcement Division
Post Office Box 4312
Baton Rouge, Louisiana 70821-4312
Attention: Permit Compliance Unit

Louisiana Department of Environmental Quality
Office of Environmental Services
Permits Division
Municipal and General Water Permits Section
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

Louisiana Department of Environmental Quality
Office of Environmental Assessment
Environmental Planning Division
Post Office Box 4314
Baton Rouge, Louisiana 70821-4314

2. **If wetland monitoring shows that there is:**

- **MORE THAN 20% DECREASE IN LITTER FALL OR STEM GROWTH**
- **SIGNIFICANT DECREASE IN THE DOMINANCE INDEX OR STEM DENSITY OF BALD CYPRESS**

then, within 180 days of a decrease in any of the above required biological criteria, the permittee shall develop a study and test procedures to determine the origination of the cause. A determination shall be made to indicate whether or not the impact to the wetland was caused by the effluent. The permittee must demonstrate to the Department what has caused the problem and develop a comprehensive plan for the expeditious elimination and prevention of such cause. The plan shall provide specific corrective actions to be taken to achieve compliance with the above biological criteria within the shortest period of time. In addition, the permittee shall submit the following with the Discharge Monitoring Report in the months of January, April, July and October:

i. any data and/or substantiating documentation which identifies the pollutant(s) and/or source(s) of effluent toxicity;
ii. any studies/evaluations and results on the treatability of the facility's effluent toxicity;
iii. any data which identifies effluent toxicity control mechanisms or measures that could be installed or implemented which would reduce or remove the effluent toxicity; and steps taken or proposed to be taken to prevent such violation(s) from recurring.

In addition, **if studies and tests indicate that the impact to the restoration wetland was caused by the effluent, then this permit may be reopened to include appropriate limitations and conditions to ensure protection of water quality standards.**

OTHER REQUIREMENTS (cont.)

3. **If loading rates exceed 15 g/m^2/yr total nitrogen or 4 g/m^2/yr total phosphorus, then either the loading rates must be reduced or the assimilation area must be increased.**

Suggestions for sampling during the wetland monitoring phase. These suggestions are from *The Use of Louisiana Swamp Forests for Application of Treated Municipal Wastewater: Standard Operating Procedures for Monitoring the Effects of Effluent Discharge*. John W. Day, Jr., Joel Lindsey, Jason N. Day, and Robert R. Lane, Comite Resources, Inc. (Used with the permission of Dr. John W. Day, Jr., March 14, 2003)

WATER QUALITY

1. **Dissolved oxygen and water temperature**: is measured using a Yellow Springs Instrument Co. meter or an ORION Model 820 Dissolved Oxygen meter or equivalent. The probe will be calibrated within four hours of use with a known standard (100% air saturation).

2. **pH & TDS**: Measurements of pH and TDS (Total Dissolved Solids) are made in the field using a Corning Checkmate M90 Field System or equivalent. Water samples will be collected in 500 ml polyethylene bottles and returned to the laboratory where pH will again be measured in the lab using a Jenco Markson pH meter, Model 6100 or equivalent.

3. **Nutrients**: Discrete water samples will be taken 5 to 10 cm below the water surface with effort taken not to stir bottom sediments or include any film that may be present on water surface. Samples are collected in 500 ml acid washed polyethylene bottles. The samples will be immediately stored at 4°C, on ice, for preservation. The samples will be transported to an analytical laboratory, and within 24 hours filtered and sub-sampled. Samples analyzed for NO_2 + NO_3, NH_4 and PO_4 will be filtered in the laboratory using 0.45 um Whatman GF/F glass fiber filters or equivalent, and unfiltered samples will be sub-sampled into 125 mL bottles. Both filtered and unfiltered samples will be frozen until analysis. The samples will be analyzed for nitrite + nitrate ($NO2+NO_3$-N), ammonium (NH_4-N), total nitrogen (TN), total phosphorus (TP), and phosphate (PO_4-P) by an EPA and DEQ approved analytical laboratory using Standard Methods.

4. **Total Suspended Solids**: TSS will be determined by filtering 100-200 mL of sample water through re-rinsed, dried and weighed 47 mm 0.45 um Whatman GF/F glass fiber filters. Filters will then be dried for 1 hr at 105° C, weighted, dried for another 15 minutes, and reweighed for quality assurance (Standard Methods 1992).

5. **Biological Oxygen Demand**: BOD samples will be collected in standard 300 ml glass BOD bottles. BOD_5 analysis will be from water samples collected in 500ml polyethylene bottles, stored on ice and taken to the laboratory for analysis. Initial D.O. will be measured within 24 hours. Final D.O. will be measured after 5 days of incubation at 20°C. Measurement of BOD is the responsibility of the facility.

6. **ICP Analysis**: Water samples will be collected from the effluent pipe and surface water in the treatment and control area for ICP and IC analysis. The following will be measured: Mg, Pb, Zn, and Cr. The results of the ICP and IC analysis will be used in reporting the metals and nutrient parameters.

7. **Coliform Analysis**: Fecal coliform (i.e. *Escherichia coli)* will be tested using membrane filtration as a field preparation, and then sent to an EPA certified laboratory for analysis. Ten ml of sample water will be passed through a 0.45 micron filter. The filter will be stored in a sterile petri dish and brought within 8 hrs to a certified laboratory for analysis.

OTHER REQUIREMENTS (cont.)

8. **Statistical Analysis**: One-way analysis of variance analysis will be carried out to compare treatment and control area parameters using statistical software. An alpha probability level of <0.05 will be used to define a significant difference. Comparisons of means with significant ANOVA tests will be made using Tukey-Kramer Honestly Significant Difference (HSD) test (Sall and Lehman 1996). Other statistical tests may be used as appropriate.

SOILS

1. **Sediment Cores**: At least one sediment core will be taken from each study site (Treatment & Control) with a 7.5 cm stainless steel corer. Following the removal of large litter debris, the top 10 to 20 cm of the samples will be separated by horizon, dried, ground and analyzed. Parameters measured will include: pH, electrical conductivity (EC), Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se, NH_3-N, NO_2+NO_3-N, PO_4-P, TKN, and TP. All elemental analyses will be done using an inductively coupled argon plasma quantometer (ICP). Results will be reported as the average of duplicate analyses that are within a 10% confidence interval. The results will be based on oven dry weight.

VEGETATION

To sample forest vegetation, three or more subplots should be established at each main plot. Normally, main plots will be established at a near, mid, and outlet locations in the Treatment site, and another main plot established at a Control site. The plots will be orientated perpendicular to the hydrological gradient.

1. **Tree Species Composition**: The relative importance of each major tree species in both the treatment and control areas will be based on the density (total number) and frequency of occurrence in each of the plots using equations 1 and 2 (Barbour et al. 1987).

   Relative density = (individuals of a species)/(total individuals of all species) (1)
   Relative frequency = (frequency of species)/(total frequency of all species in area) (2)

2. **Nutrient and Metals Analysis of Green Leaves**: Green leaf samples should be collected during the last year of the monitoring from the major species in the treatment and control areas, once during March through May and once during September through November. Samples will be oven-dried at 70°C for at least 48 hours, ground in a Wiley mill to pass a 40 mesh screen, and stored in whirl-pak bags. Samples will be analyzed in the laboratory for Mg, Pb, Cd, Cr, Cu, Zn, Fe, Ni, Ag, Se, TKN and TP. The tissue analyses should be done by a wet digestion method.

3. **Marsh Vegetation Production:** Net production in areas dominated by non-woody herbaceous vegetation will be determined by end of season live (EOSL) biomass analysis. Sampling should be conducted during the last week of September or the first week of October. At least five 0.06 m^2 clip plots will be taken at each location using randomly placed quadrants. Vegetation within the quadrant will be cut as close to the surface as possible, stored in labeled paper bags, brought back to the laboratory, and refrigerated until processing. Live material will be separated from dead, and dried at 60° C to a constant weight. All data will be presented on a live dry weight per square meter basis (g dry wt m^{-2}).

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PART III
STANDARD CONDITIONS FOR LPDES PERMITS

SECTION A. GENERAL CONDITIONS

1. Introduction
   In accordance with the provisions of LAC 33:IX.2701, et seq., this permit incorporates either expressly or by reference ALL conditions and requirements applicable to Louisiana Pollutant Discharge Elimination System Permits (LPDES) set forth in the Louisiana Environmental Quality Act (LEQA), as amended, as well as ALL applicable regulations.

2. Duty to Comply
   The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Louisiana Environmental Quality Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3. Penalties for Violation of Permit Conditions
   a. LA. R. S. 30:2025 provides for civil penalties for violations of these regulations and the Louisiana Environmental Quality Act. LA. R. S. 30:2076.2 provides for criminal penalties for violation of any provisions of the LPDES or any order or any permit condition or limitation issued under or implementing any provisions of the LPDES program. (See Section E. Penalties for Violation of Permit Conditions for additional details).

   b. Any person may be assessed an administrative penalty by the State Administrative Authority under LA. R. S. 30:2025 for violating a permit condition or limitation implementing any of the requirements of the LPDES program in a permit issued under the regulations or the Louisiana Environmental Quality Act.

4. Toxic Pollutants
   a. Other effluent limitations and standards under Sections 301, 302, 303, 307, 318, and 405 of the Clean Water Act. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the Clean Water Act for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in this permit, the state administrative authority shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition.

   b. 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 the permit has not yet been modified to incorporate the requirement.

5. Duty to Reapply
   a. Individual Permits. 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. The new application shall be submitted at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the state administrative authority. (The state administrative authority shall not grant permission for applications to be submitted later than the expiration date of the existing permit.) Continuation of expiring permits shall be governed by regulations promulgated at LAC 33:IX.2321 and any subsequent amendments.

b. General Permits. General permits expire five years after the effective date. The 180-day reapplication period as defined above is not applicable to general permit authorizations. Reissued general permits may provide automatic coverage for permittees authorized under the previous version of the permit, and no new application is required. Requirements for obtaining authorization under the reissued general permit will be outlined in Part I of the new permit. Permittees authorized to discharge under an expiring general permit should follow the requirements for obtaining coverage under the new general permit to maintain discharge authorization.

6. Permit Action
This permit may be modified, revoked and reissued, or terminated for cause in accordance with LAC 33:IX.2903, 2905, 2907, 3105 and 6509. The causes may include, but are not limited to, the following:

a. Noncompliance by the permittee with any condition of the permit;

b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;

c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination;

d. A change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge; or

e. Failure to pay applicable fees under the provisions of LAC 33: IX. Chapter 13;

f. Change of ownership or operational control;

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.

7. Property Rights
This permit does not convey any property rights of any sort, or any exclusive privilege.

8. Duty to Provide Information
The permittee shall furnish to the state administrative authority, within a reasonable time, any information which the state administrative authority 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 state administrative authority, upon request, copies of records required to be kept by this permit.

9. Criminal and Civil Liability
Except as provided in permit conditions on "Bypassing" and "Upsets", nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of the permit, the Act, or applicable regulations, which avoids or effectively defeats the regulatory purpose of the Permit may subject the Permittee to criminal enforcement pursuant to La. R.S. 30:2025.

10. 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 Section 311 of the Clean Water Act.

11. State Laws
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 established pursuant to any applicable State law or regulation under authority preserved by Section 510 of the Clean Water Act.

12. Severability
If any provision of these rules and regulations, or the application thereof, is held to be invalid, the remaining provisions of these rules and regulations shall not be affected, so long as they can be given effect without the invalid provision. To this end, the provisions of these rules and regulations are declared to be severable.

13. Dilution
A permittee shall not achieve any effluent concentration by dilution unless specifically authorized in the permit. A permittee shall not increase the use of process water or cooling water or otherwise attempt to dilute a discharge as a partial or complete substitute for adequate treatment to achieve permit limitations or water quality.

14. Facilities Requiring Approval from Other State Agencies
In accordance with La R.S.40.4(A)(6) the plans and specifications of all sanitary sewerage treatment systems, both public and private, must be approved by the Department of Health and Hospitals state health officer or his designee. It is unlawful for any person, firm, or corporation, both municipal and private to operate a sanitary sewage treatment facility without proper authorization from the state health officer.

In accordance with La R.S.40.1149, it is unlawful for any person, firm or corporation, both municipal and private, operating a sewerage system to operate that system unless the competency of the operator is duly certified by the Department of Health and Hospitals state health officer. Furthermore, it is unlawful for any person to perform the duties of an operator without being duly certified.

In accordance with La R.S.48.385, it is unlawful for any industrial wastes, sewage, septic tanks effluent, or any noxious or harmful matter, solid, liquid or gaseous to be discharged into the side or cross ditches or placed upon the rights-of-ways of state highways without the prior written consent of the Department of Transportation and Development chief engineer or his duly authorized representative and of the secretary of the Department of Health and Hospitals.

SECTION B. PROPER OPERATION AND MAINTENANCE

1. Need to Halt or Reduce 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.

2. Duty to Mitigate
The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. The permittee shall also take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with the permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

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

   b. The permittee shall provide an adequate operating staff which is duly qualified to carry out operation, maintenance and other functions necessary to ensure compliance with the conditions of this permit.

4. Bypass of Treatment Facilities
   a. ***Bypass***. The intentional diversion of waste streams from any portion of a treatment facility.

   b. 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 Section B.4.c. and 4.d of these standard conditions.

   c. Notice
      (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice to the Office of Environmental Services, Water Permits Division, if possible at least ten days before the date of the bypass.

      (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in LAC 33:IX.2701.L.6, (24-hour notice) and Section D.6.e. of these standard conditions.

   d. Prohibition of bypass
      (1) Bypass is prohibited, and the state administrative authority may take enforcement action against a permittee for bypass, unless:

         (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

         (b) 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,

         (c) The permittee submitted notices as required by Section B.4.c of these standard conditions.

      (2) The state administrative authority may approve an anticipated bypass after considering its adverse effects, if the state administrative authority determines that it will meet the three conditions listed in Section B.4.d(1) of these standard conditions.

5. Upset Conditions
   a. Upset. 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.

   b. 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 Section B.5.c. 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.

   c. 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:
      (1) An upset occurred and that the permittee can identify the cause(s) of the upset;

      (2) The permitted facility was at the time being properly operated; and

      (3) The permittee submitted notice of the upset as required by LAC 33:IX.2701.L.6.b.ii. and Section D.6.e.(2) of these standard conditions; and

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(4) The permittee complied with any remedial measures required by Section B.2 of these standard conditions.

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

6. Removed Substances
Solids, sewage sludges, filter backwash, or other pollutants removed in the course of treatment or wastewater control shall be properly disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the state and in accordance with environmental regulations.

7. Percent Removal
For publicly owned treatment works, the 30-day average percent removal for Biochemical Oxygen Demand and Total Suspended Solids shall not be less than 85 percent in accordance with LAC 33:IX.5905.A.3. and B.3.

SECTION C. MONITORING AND RECORDS

1. Inspection and Entry
The permittee shall allow the state administrative authority or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by the law to:

a. 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.

Enter upon the permittee's premises where a discharge source is or might be located or in which monitoring equipment or records required by a permit are kept for inspection or sampling purposes. Most inspections will be unannounced and should be allowed to begin immediately, but in no case shall begin more than thirty (30) minutes after the time the inspector presents his/her credentials and announces the purpose(s) of the inspection. Delay in excess of thirty (30) minutes shall constitute a violation of this permit. However, additional time can be granted if the inspector or the Administrative Authority determines that the circumstances warrant such action; and

b. Have access to and copy, at reasonable times, any records that the department or its authorized representative determines are necessary for the enforcement of this permit. For records maintained in either a central or private office that is open only during normal office hours and is closed at the time of inspection, the records shall be made available as soon as the office is open, but in no case later than the close of business the next working day;

c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act or the Louisiana Environmental Quality Act, any substances or parameters at any location.

e. Sample Collection
(1) When the inspector announces that samples will be collected, the permittee will be given an additional thirty (30) minutes to prepare containers in order to collect duplicates. If the permittee cannot obtain and prepare sample containers within this time, he is considered to have waived his right to collect duplicate samples and the sampling will proceed immediately. Further delay on the part of the permittee in allowing initiation of the sampling will constitute a violation of this permit.
(2) At the discretion of the administrative authority, sample collection shall proceed immediately (without the additional 30 minutes described in Section C.1.a. above) and the inspector shall supply the permittee with a duplicate sample.

f. It shall be the responsibility of the permittee to ensure that a facility representative familiar with provisions of its wastewater discharge permit, including any other conditions or limitations, be available either by phone or in person at the facility during all hours of operation. The absence of such personnel on-site who are familiar with the permit shall not be grounds for delaying the initiation of an inspection except in situations as described in Section C.1.b. of these standard conditions. The permittee shall be responsible for providing witnesses/escorts during inspections. Inspectors shall abide by all company safety rules and shall be equipped with standard safety equipment (hard hat, safety shoes, safety glasses) normally required by industrial facilities.

g. Upon written request copies of field notes, drawings, etc., taken by department personnel during an inspection shall be provided to the permittee after the final inspection report has been completed.

2. Representative Sampling
Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. All samples shall be taken at the outfall location(s) indicated in the permit. The state administrative authority shall be notified prior to any changes in the outfall location(s). Any changes in the outfall location(s) may be subject to modification, revocation and reissuance in accordance with LAC 33:IX.2903.

3. Retention of Records
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 40 CFR 503), 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 state administrative authority at any time.

4. Record Contents
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 time(s) analyses were begun;
e. The individual(s) who performed the analyses;
f. The analytical techniques or methods used;
g. The results of such analyses; and
h. The results of all quality control procedures.

5. Monitoring Procedures

a. Monitoring results must be conducted according to 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 40 CFR Part 503, unless other test procedures have been specified in this permit.

b. The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instruments at intervals frequent enough to insure accuracy of measurements and shall maintain appropriate records of such activities.

c. The permittee or designated laboratory shall have an adequate analytical quality assurance/quality control program to produce defensible data of know precision and accuracy. All quality control measures shall be assessed and evaluated on an on-going basis and quality control acceptance criteria shall be used to determine the validity of the data. All method specific quality control as prescribed in the method shall be followed. If quality control requirements are not included in the method, the permittee or designated laboratory shall follow the quality control requirements as prescribed in the Approved Edition (40 CFR Part 136) Standard Methods for the Examination of Water and Wastes, Sections 1020A and 1020B. General sampling protocol shall follow guidelines established in the

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"Handbook for Sampling and Sample Preservation of Water and Wastewater, 1982 "U.S. Environmental Protection Agency. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, Phone number (800) 553-6847. Order by NTIS publication number PB-83-124503.

6. Flow Measurements
Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected 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 insure that the accuracy of the measurements are consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than 10% from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration and operation of acceptable flow measurement devices can be obtained from the following references:
   a. "A Guide to Methods and Standards for the Measurement of Water Flow, 1975," U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, Phone number (800) 553-6847. Order by NTIS publication number COM-75-10683.
   b. "Flow Measurement in Open Channels and Closed Conduits, Volumes 1 and 2," U.S. Department of Commerce, National Bureau of Standards. This publication is available from the National Technical Service (NTIS), Springfield, VA, 22161, Phone number (800) 553-6847. Order by NTIS publication number PB-273 535.
   c. "NPDES Compliance Flow Measurement Manual," U.S. Environmental Protection Agency, Office of Water Enforcement. This publication is available from the National Technical Information Service (NTIS), Springfield, VA 22161, Phone number (800) 553-6847. Order by NTIS publication number PB-82-131178.

7. Prohibition for Tampering: Penalties
   a. LA R.S. 30:2025 provides for punishment of any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit.

   b. LA R.S. 30:2076.2 provides for penalties for any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non compliance.

8. Additional Monitoring by the Permittee
If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 (See LAC 33:IX.4901) or, in the case of sludge use and disposal, approved under 40 CFR Part 136 (See LAC 33:IX.4901) unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the 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 state administrative authority.

9. Averaging of Measurements
Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the state administrative authority in the permit.

10. Laboratory Accreditation
   a. LAC 33:I.Subpart 3, Chapters 45-59 provide requirements for an accreditation program specifically applicable to commercial laboratories, wherever located, that provide chemical analyses, analytical results, or other test data to the department, by contract or by agreement, and the data is:
      (1) Submitted on behalf of any facility, as defined in R.S.30:2004;
      (2) Required as part of any permit application;
      (3) Required by order of the department;
      (4) Required to be included on any monitoring reports submitted to the department;
      (5) Required to be submitted by contractor
      (6) Otherwise required by department regulations.

b. The department laboratory accreditation program, Louisiana Environmental Laboratory Accreditation Program (LELAP) is designed to ensure the accuracy, precision, and reliability of the data generated, as well as the use of department-approved methodologies in generation of that data. Laboratory data generated by commercial environmental laboratories that are not (LELAP) accredited will not be accepted by the department. Retesting of analysis will be required by an accredited commercial laboratory.

Where retesting of effluent is not possible (i.e. data reported on DMRs for prior month's sampling), the data generated will be considered invalid and in violation of the LPDES permit.

c. Regulations on the Louisiana Environmental Laboratory Accreditation Program and a list of labs that have applied for accreditation are available on the department website located under DIVISIONS → LABORATORY SERVICES at the following link:

http://www.deq.louisiana.gov

Questions concerning the program may be directed to (225) 219-9800.

SECTION D. REPORTING REQUIREMENTS

1. Facility Changes
The permittee shall give notice to the state administrative authority as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:
   a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

   b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under LAC 33:IX.2703.A.1.

   c. For Municipal Permits. Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to Section 301, or 306 of the CWA if it were directly discharging those pollutants; and any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit. In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

2. Anticipated Noncompliance
The permittee shall give advance notice to the state administrative authority 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 notice to the state administrative authority. The state administrative authority may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act or the Louisiana Environmental Quality Act. (See LAC 33:IX.2901; in some cases, modification or revocation and reissuance is mandatory.)

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 LAC 33:IX.2903. A.2.b), or a minor modification made (under LAC 33:IX.2905) to identify the new permittee and incorporate such other requirements as may be necessary under the Clean Water Act and the Louisiana Environmental Quality Act.

4. Monitoring Reports
Monitoring results shall be reported at the intervals and in the form specified in Part I or Part II of this permit.

The permittee shall submit properly completed Discharge Monitoring Reports (DMRs) on the form specified in the permit. Preprinted DMRs are provided to majors/92-500's and other designated facilities. Please contact the Permit Compliance Unit concerning preprints. Self-generated DMRs must be pre-approved by the Permit Compliance Unit prior to submittal. Self-generated DMRs are approved on an individual basis. Requests for approval of self-generated DMRs should be submitted to:

Supervisor, Permit Compliance Unit
Office of Environmental Compliance
Post Office Box 4312
Baton Rouge, LA 70821-4312

Copies of blank DMR templates, plus instructions for completing them, and EPA's LPDES Reporting Handbook are available at the department website located at:

http://www.deq.louisiana.gov/portal/Default.aspx?tabid=2276

5. Compliance Schedules
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.

6. Requirements for Notification

a. Emergency Notification
As required by LAC 33.I.3915, in the event of an unauthorized discharge that does cause an emergency condition, the discharger shall notify the hotline (DPS 24-hour Louisiana Emergency Hazardous Materials Hotline) by telephone at (225) 925-6595 (collect calls accepted 24 hours a day) immediately (a reasonable period of time after taking prompt measures to determine the nature, quantity, and potential off-site impact of a release, considering the exigency of the circumstances), but in no case later than one hour after learning of the discharge. (An emergency condition is any condition which could reasonably be expected to endanger the health and safety of the public, cause significant adverse impact to the land, water, or air environment, or cause severe damage to property.) Notification required by this section will be made regardless of the amount of discharge. Prompt Notification Procedures are listed in Section D.6.c. of these standard conditions.

A written report shall be provided within seven calendar days after the notification. The report shall contain the information listed in Section D.6.d. of these standard conditions and any additional information in LAC 33:I.3925.B.

b. Prompt Notification
As required by LAC 33:I.3917, in the event of an unauthorized discharge that exceeds a reportable quantity specified in LAC 33:I.Subchapter E, but does not cause an emergency condition, the discharger shall promptly notify the department within 24 hours after learning of the discharge. Notification should be made to the Office of Environmental Compliance, Surveillance Division Single Point of Contact (SPOC) in accordance with LAC 33:I.3923.

In accordance with LAC 33:I.3923, prompt notification shall be provided within a time frame not to exceed 24 hours and shall be given to the Office of Environmental Compliance, Surveillance Division Single Point of Contact (SPOC) as follows:

(1) by the Online Incident Reporting screens found at http://www3.deq.louisiana.gov/surveillance/irf/forms/ ;or

(2) by e-mail utilizing the Incident Report Form and instructions found at http://www.deq.louisiana.gov/portal/Default.aspx?tabid=279;or

(3) by telephone at (225) 219-3640 during office hours, or (225) 342-1234 after hours and on weekends and holidays.

c. Content of Prompt Notifications. The following guidelines will be utilized as appropriate, based on the conditions and circumstances surrounding any unauthorized discharge, to provide relevant information regarding the nature of the discharge:

(1) the name of the person making the notification and the telephone number where any return calls from response agencies can be placed;

(2) the name and location of the facility or site where the unauthorized discharge is imminent or has occurred, using common landmarks. In the event of an incident involving transport, include the name and address of the transporter and generator;

(3) the date and time the incident began and ended, or the estimated time of continuation if the discharge is continuing;

(4) the extent of any injuries and identification of any known personnel hazards that response agencies may face;

(5) the common or scientific chemical name, the U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all discharged pollutants;

(6) a brief description of the incident sufficient to allow response agencies to formulate their level and extent of response activity.

d. Written Notification Procedures. Written reports for any unauthorized discharge that requires notification under Section D.6.a. or 6.b., or shall be submitted by the discharger to the Office of Environmental Compliance, Surveillance Division SPOC in accordance with LAC 33:IX.3925 within seven calendar days after the notification required by D.6.a. or 6.b., unless otherwise provided for in a valid permit or other department regulation. Written notification reports shall include, but not be limited to, the following information:

(1) the name, address, telephone number, Agency Interest (AI) number (number assigned by the department) if applicable, and any other applicable identification numbers of the person, company, or other party who is filing the written report, and specific identification that the report is the written follow-up report required by this section;

(2) the time and date of prompt notification, the state official contacted when reporting, the name of person making that notification, and identification of the site or facility, vessel, transport vehicle, or storage area from which the unauthorized discharge occurred;

(3) date(s), time(s), and duration of the unauthorized discharge and, if not corrected, the anticipated time it is expected to continue;

(4) details of the circumstances (unauthorized discharge description and root cause) and events leading to any unauthorized discharge, including incidents of loss of sources of radiation, and if the release point is subject to a permit:

(a) the current permitted limit for the pollutant(s) released;and

(b) the permitted release point/outfall ID.

(5) the common or scientific chemical name of each specific pollutant that was released as the result of an unauthorized discharge, including the CAS number and U.S. Department of Transportation hazard classification, and the best estimate of amounts of any and all released pollutants (total amount of each compound expressed in pounds, including calculations);

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(6) a statement of the actual or probable fate or disposition of the pollutant or source of radiation and what off-site impact resulted;

(7) remedial actions taken, or to be taken, to stop unauthorized discharges or to recover pollutants or sources of radiation.

(8) Written notification reports shall be submitted to the Office of Environmental Compliance, Surveillance Division SPOC by mail or fax. The transmittal envelope and report or fax cover page and report should be clearly marked "**UNAUTHORIZED DISCHARGE NOTIFICATION REPORT**."

Please see LAC 33:I.3925.B for additional written notification procedures.

e. Twenty-four Hour Reporting. The permittee shall report any noncompliance which may endanger human health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within five 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 recurrence of the noncompliance. The following shall be included as information which must be reported within 24hours:

(1) Any unanticipated bypass which exceeds any effluent limitation in the permit (see LAC 33:IX.2701.M.3.b.);

(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 state administrative authority in Part II of the permit to be reported within 24 hours (LAC 33:IX.2707.G.).

7. Other Noncompliance
The permittee shall report all instances of noncompliance not reported under Section D.4., 5., and 6., at the time monitoring reports are submitted. The reports shall contain the information listed in Section D.6.e.

8. 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 state administrative authority, it shall promptly submit such facts or information.

9. Discharges of Toxic Substances
In addition to the reporting requirements under Section D.1-8, all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Office of Environmental Services, Water Permits Division as soon as they know or have reason to believe:

a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant:

i. listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following notification levels:

(1) One hundred micrograms per liter (100 µg/L);

(2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4 -dinitro-phenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

(3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC33:IX.2501.G.7; or

(4) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or

ii. which exceeds the reportable quantity levels for pollutants at LAC 33:I. Subchapter E.

b. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant:
   i. listed at LAC 33:IX.7107, Tables II and III (excluding Total Phenols) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

      (1) Five hundred micrograms per liter (500 µg/L);
      (2) One milligram per liter (1 mg/L) for antimony;
      (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with LAC 33:IX.2501.G.7; or
      (4) The level established by the state administrative authority in accordance with LAC 33:IX.2707.F; or

   ii. which exceeds the reportable quantity levels for pollutants at LAC 33:I. Subchapter E.

10. Signatory Requirements
~~All applications, reports, or information submitted to the state administrative authority shall be signed and~~ certified.
   a. 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 that 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 ensure 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 the authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

      NOTE: DEQ does not require specific assignments or delegations of authority to responsible corporate officers identified in Section D.10.a.(1)(a). The agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the state administrative authority to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under Section D.10.a.(1)(b) rather than to specific individuals.

      (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 - by either a principal executive officer 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 Administrators of EPA).

   b. All reports required by permits and other information requested by the state administrative authority shall be signed by a person described in Section D.10.a., 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 Section D.10.a. of these standard conditions;

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(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 an individual occupying a named position; and,

(3) The written authorization is submitted to the state administrative authority.

c. Changes to authorization. If an authorization under Section D.10.b. 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 Section D.10.b. must be submitted to the state administrative authority 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 Section D.10. a. or b. above, 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."

11. Availability of Reports

All recorded information (completed permit application forms, fact sheets, draft permits, or any public document) not classified as confidential information under R.S. 30:2030(A) and 30:2074(D) and designated as such in accordance with these regulations (LAC 33:IX.2323 and LAC 33:IX.6503) shall be made available to the public for inspection and copying during normal working hours in accordance with the Public Records Act, R.S. 44:1 et seq.

Claims of confidentiality for the following will be denied:

a. The name and address of any permit applicant or permittee;
b. Permit applications, permits, and effluent data.
c. Information required by LPDES application forms provided by the state administrative authority under LAC 33:IX.2501 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

SECTION E. PENALTIES FOR VIOLATIONS OF PERMIT CONDITION

1. Criminal

a. Negligent Violations

The Louisiana Revised Statutes LA. R. S. 30:2076.2 provides that any person who negligently violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any such provision in a permit issued under the LPDES by the secretary, or any requirement imposed in a pretreatment program approved under the LPDES is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than $50,000 per day of violation, or imprisonment of not more than two years, or both.

b. Knowing Violations

The Louisiana Revised Statutes LA. R. S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any permit condition or limitation implementing any such provisions in a permit issued under the LPDES, or any requirement imposed in a pretreatment program approved under

the LPDES is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or imprisonment for not more than 3 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person, he shall be subject to a fine of not more than $100,000 per day of violation, or imprisonment of not more than six years, or both.

c. Knowing Endangerment
The Louisiana Revised Statutes LA. R. S. 30:2076.2 provides that any person who knowingly violates any provision of the LPDES, or any order issued by the secretary under the LPDES, or any permit condition or limitation implementing any of such provisions in a permit issued under the LPDES by the secretary, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both. A person which is an organization shall, upon conviction of violating this Paragraph, be subject to a fine of not more than one million dollars. If a conviction of a person is for a violation committed after a first conviction of such person under this Paragraph, the maximum punishment shall be doubled with respect to both fine and imprisonment.

d. False Statements
The Louisiana Revised Statutes LA. R. S. 30:2076.2 provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the LPDES or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the LPDES, shall, upon conviction, be subject to a fine of not more than $10,000, or imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this Subsection, he shall be subject to a fine of not more than $20,000 per day of violation, or imprisonment of not more than 4 years, or both.

2. Civil Penalties
The Louisiana Revised Statutes LA. R. S. 30:2025 provides that any person found to be in violation of any requirement of this Subtitle may be liable for a civil penalty, to be assessed by the secretary, an assistant secretary, or the court, of not more than the cost to the state of any response action made necessary by such violation which is not voluntarily paid by the violator, and a penalty of not more than $32,500 for each day of violation. However, when any such violation is done intentionally, willfully, or knowingly, or results in a discharge or disposal which causes irreparable or severe damage to the environment or if the substance discharged is one which endangers human life or health, such person may be liable for an additional penalty of not more than one million dollars.

(**PLEASE NOTE**: These penalties are listed in their entirety in Subtitle II of Title 30 of the Louisiana Revised Statutes.)

SECTION F. DEFINITIONS

All definitions contained in Section 502 of the Clean Water Act shall apply to this permit and are incorporated herein by reference. Additional definitions of words or phrases used in this permit are as follows:

1. Clean Water Act (CWA) means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972) Pub.L.92-500, as amended by Pub.L. 95-217, Pub.L. 95-576, Pub.L. 96-483 and Pub.L. 97-117, 33 U.S.C. 1251 et. seq.).

2. Accreditation means the formal recognition by the department of a laboratory's competence wherein specific tests or types of tests can be accurately and successfully performed in compliance with all minimum requirements set forth in the regulations regarding laboratory accreditation.

3. Administrator means the Administrator of the U.S. Environmental Protection Agency, or an authorized representative.

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4. Applicable Standards and Limitations means all state, interstate and federal standards and limitations to which a discharge is subject under the Clean Water Act, including, effluent limitations, water quality standards of performance, toxic effluent standards or prohibitions, best management practices, and pretreatment standards under Sections 301, 302, 303, 304, 306, 307, 308 and 403.

5. Applicable water quality standards means all water quality standards to which a discharge is subject under the Clean Water Act.

6. Commercial Laboratory means any laboratory, wherever located, that performs analyses or tests for third parties for a fee or other compensation and provides chemical analyses, analytical results, or other test data to the department. The term commercial laboratory does not include laboratories accredited by the Louisiana Department of Health and Hospitals in accordance with R.S.49:1001 et seq.

7. 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 terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the sampling 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 sampling day. Daily discharge determination of concentration made using a composite sample shall be the concentration of the composite sample.

8. Daily Maximum discharge limitation means the highest allowable "daily discharge".

9. Director means the U.S. Environmental Protection Agency Regional Administrator, or the state administrative authority, or an authorized representative.

10. Domestic septage means either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from grease trap at a restaurant.

11. Domestic sewage means waste and wastewater from humans, or household operations that is discharged to or otherwise enters a treatment works.

12. Environmental Protection Agency or (EPA) means the U.S. Environmental Protection Agency.

13. Grab sample means an individual sample collected over a period of time not exceeding 15 minutes, unless more time is needed to collect an adequate sample, and is representative of the discharge.

14. Industrial user means a nondomestic discharger, as identified in 40 CFR 403, introducing pollutants to a publicly owned treatment works.

15. LEQA means the Louisiana Environmental Quality Act.

16. Louisiana Pollutant Discharge Elimination System (LPDES) means those portions of the Louisiana Environmental Quality Act and the Louisiana Water Control Law and all regulations promulgated under their authority which are deemed equivalent to the National Pollutant Discharge Elimination System (NPDES) under the Clean Water Act in accordance with Section 402 of the Clean Water Act and all applicable federal regulations.

17. Monthly Average, other than for fecal coliform bacteria, discharge limitations are calculated as the sum of all "daily discharge(s)" measured during a calendar month divided by the number of "daily discharge(s)" measured during that month. When the permit establishes monthly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the monthly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar month where C = daily discharge concentration, F = daily flow and n = number of daily samples; monthly average discharge =

$$\frac{C_1F_1 + C_2F_2 + \ldots + C_nF_n}{F_1 + F_2 + \ldots + F_n}$$

When the permit establishes monthly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the monthly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar month.

The monthly average for fecal coliform bacteria is the geometric mean of the values for all effluent samples collected during a calendar month.

18. National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 318, 402, and 405 of the Clean Water Act.

19. Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that 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.

20. Sewage sludge means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; portable toilet pumpings, type III marine sanitation device pumpings (33 CFR part 159); and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

21. Treatment works means any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage and industrial wastes of a liquid nature to implement Section 201 of the Clean Water Act, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, sewage collection systems, pumping, power and other equipment, and their appurtenances, extension, improvement, remodeling, additions, and alterations thereof. (See Part 212 of the Clean Water Act)

22. For fecal coliform bacteria, a sample consists of one effluent grab portion collected during a 24-hour period at peak loads.

23. The term MGD shall mean million gallons per day.

24. The term mg/L shall mean milligrams per liter or parts per million (ppm).

25. The term µg/L shall mean micrograms per liter or parts per billion (ppb).

26. The term ng/L shall mean nanograms per liter or parts per trillion (ppt).

27. Weekly average, other than for fecal coliform bacteria, is the highest allowable arithmetic mean of the daily discharges over a calendar week, calculated as the sum of all "daily discharge(s)" measured during a calendar week divided by the number of "daily discharge(s)" measured during that week. When the permit establishes weekly average concentration effluent limitations or conditions, and flow is measured as continuous record or with a totalizer, the weekly average concentration means the arithmetic average (weighted by flow) of all "daily discharge(s)" of concentration determined during the calendar week where C = daily discharge concentration, F = daily flow and n = number of daily samples; weekly average discharge

$$= \frac{C_1F_1 + C_2F_2 + \ldots + C_nF_n}{F_1 + F_2 + \ldots + F_n}$$

When the permit establishes weekly average concentration effluent limitations or conditions, and the flow is not measured as a continuous record, then the weekly average concentration means the arithmetic average of all "daily discharge(s)" of concentration determined during the calendar week.

~~The weekly average for fecal coliform bacteria is the geometric mean of the values for all effluent samples~~ collected during a calendar week.

28. Sanitary Wastewater Term(s):

a. 3-hour composite sample consists of three effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 3-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 3-hour period.

b. 6-hour composite sample consists of six effluent portions collected no closer together than one hour (with the first portion collected no earlier than 10:00 a.m.) over the 6-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 6-hour period.

c. 12-hour composite sample consists of 12 effluent portions collected no closer together than one hour over the 12-hour period and composited according to flow, or a sample continuously collected in proportion to flow over the 12-hour period. The daily sampling intervals shall include the highest flow periods.

d. 24-hour composite sample consists of a minimum of 12 effluent portions collected at equal time intervals over the 24-hour period and combined proportional to flow or a sample continuously collected in proportion to flow over the 24-hour period.