



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 1

5 POST OFFICE SQUARE, SUITE 100  
BOSTON, MA 02109-3912

**By Electronic Mail and Hard Copy (Certified Mail - Return Receipt Requested)**

**JAN 12 2017**

Sharon McMillin, PhD, Administrator  
Winnepesaukee River Basin Program  
P.O. Box 68  
Franklin, New Hampshire 03235

Re: Minor Modification for NPDES Permit No. NH0100960 for the Winnepesaukee River Basin Program Wastewater Treatment Plant

Dear Ms. McMillin:

This letter addresses a minor modification to the National Pollutant Discharge Elimination System ("NPDES") Permit No. NH0100960 issued to the Winnepesaukee River Basin Program Wastewater Treatment Plant in Franklin, Massachusetts (the "Facility") on October 4, 2016, and modified on the date of this letter (the "Modified Final NPDES Permit"), by the United States Environmental Protection Agency's ("EPA") Region 1 office ("Region 1" or "the Region").

More specifically, this letter institutes a minor modification to the Modified Final NPDES Permit pursuant to federal regulations found at 40 C.F.R. § 122.63. Whole effluent toxicity testing contained in Part I.A.1 of the Modified Final NPDES Permit requires the permittee to report pH in standard units (replacing mg/l), specific conductance in units of umho/cm (replacing mg/l) and to measure ammonia nitrogen as N (replacing total ammonia nitrogen). Each of these changes applies to both the effluent and ambient monitoring requirement for whole effluent toxicity testing on pages 3 and 4 of the permit. The modified pages of the permit (pages 3 and 4) are attached and should replace pages 3 and 4 of the final permit issued on October 4, 2016.

The minor permit modification instituted by this letter is needed because the final permit issued on October 4, 2016 contained the three typographical errors cited above, which are being corrected as authorized by 40 C.F.R. § 122.63(a). The exchange of emails between Michael Cobb of EPA and Sharon McMillin of the Winnepesaukee River Basin Program on December 23, 2016 confirms mutual consent of this minor permit modification.

Consistent with 40 C.F.R. § 122.63 regarding the effective date of minor permit modifications, the above-listed minor permit modification will be incorporated into the Modified Final NPDES Permit and become effective immediately. *See also* 40 C.F.R. § 122.62 (introductory paragraph).

If you have any questions regarding the matters discussed above, please contact Michael Cobb at (617) 918-1369.

Sincerely,



Ken Moraff, Director  
Office of Ecosystem Protection

Enclosure: Modified Final NPDES Permit No. NH0100960 (pages 3 and 4)

cc (by electronic copy):

Stergios Spanos, NHDES  
Dennis Greene, NHDES

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act, as amended, (33 U.S.C. §1251 et seq.; the "CWA"),

**Winnepesaukee River Basin Program Wastewater Treatment Plant**

is authorized to discharge from the Wastewater Treatment Plant located at

**528 River Street  
Franklin, New Hampshire 03235**

to receiving waters named

**Merrimack River (Hydrologic Basin Code: 01070002)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein including, but not limited to, conditions requiring the proper operation and maintenance of the Winnepesaukee River Basin Program Wastewater Treatment Plant collection system.

The Towns of Belmont, Center Harbor, Franklin, Gilford, Laconia, Meredith, Northfield, Sanbornton and Tilton, and the NH Department of Administrative Services Lakes Region Facility (as listed in Attachment A of the permit) are co-permittees for activities required in Part I.B. (Unauthorized Discharges), Part I.C. (Operation and Maintenance of the Sewer System) and Part I.D. (Alternate Power Source). Each co-permittee is subject to the requirements of these Parts only for those portions of the collection system it owns and operates.

This permit will become effective on the first day of the calendar month immediately following sixty days after signature.

This permit and the authorization to discharge expire at midnight five years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on June 19, 2009.

This permit consists of **Part I** (20 pages including effluent limitations and monitoring requirements); **Attachment A** (Co-permittees); **Attachment B** (USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol, February 2011, 8 pages); **Attachment C** (USEPA Region 1 Reassessment of Technically Based Industrial Discharge Limits, 9 pages); **Attachment D** (USEPA Region 1 NPDES Permit Requirement for Industrial Pretreatment Annual Report, 2 pages) and **Part II** (NPDES Part II Standard Conditions, 25 pages).

Signed this 4<sup>th</sup> day of October, 2016.

**/S/ SIGNATURE ON FILE**

---

Kenneth Moraff, Director  
Office of Ecosystem Protection  
U.S. Environmental Protection Agency (EPA)  
Region I  
Boston, Massachusetts



**PART I****A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

1. During the period beginning on the effective date and lasting through expiration, the permittee is authorized to discharge treated domestic and industrial wastewater from outfall serial number 001 to the Merrimack River. Such discharges shall be limited and monitored by the permittee, as specified below. Samples taken in compliance with the monitoring requirements specified below shall be taken after all treatment processes and at a location that provides a representative analysis of the discharge. The effluent sampling location can be either at the outfall flume or from inside the old Plant Water Building at a turbulent location in the effluent channel.

<u>Effluent Characteristic</u>	<u>Discharge Limitations</u>			<u>Monitoring Requirements</u>	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Effluent Flow; mgd	11.5 <sup>1</sup>	---	---	Continuous Recorder <sup>1</sup>	
Effluent Flow; mgd	Report	---	Report	Continuous Recorder <sup>1</sup>	
CBOD <sub>5</sub> ; mg/l (lb/day)	25 (2,400)	40 (3,840)	45 (4,320)	2/Week <sup>2</sup>	24 Hour Composite
TSS; mg/l (lb/day)	30 (2,880)	45 (4,320)	50 (4,800)	2/Week <sup>2</sup>	24 Hour Composite
Total Phosphorus; lb/d (Applicable April 1-October 31)	208 <sup>3</sup>	---	Report	2/Month	24 Hour Composite
pH Range <sup>4</sup> ; Standard Units	6.0 to 8.0 (See I.I.5., State Permit Conditions)			Continuous Recorder	
<i>Escherichia coli</i> <sup>5</sup> ; MPN/100 ml	126	---	406	3/Week	Grab

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

Effluent Characteristic	Discharge Limitations			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Whole Effluent Toxicity <sup>6,7,8</sup> ; Percent	Acute LC <sub>50</sub> ≥ 100%			1/Quarter	24 Hour Composite
Hardness <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Alkalinity <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
pH <sup>9</sup> ; Standard Units	----	----	Report	1/Quarter	Grab
Specific Conductance <sup>9</sup> ; umho/cm	----	----	Report	1/Quarter	24 Hour Composite
Total Solids <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Dissolved Solids <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Ammonia Nitrogen as N <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Organic Carbon <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Residual Chlorine <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	Grab
Total Recoverable Aluminum <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Recoverable Cadmium <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Recoverable Copper <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Recoverable Nickel <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Recoverable Lead <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite
Total Recoverable Zinc <sup>9</sup> ; mg/l	----	----	Report	1/Quarter	24 Hour Composite

See pages 5 and 6 for footnotes

## CONTINUED FROM PREVIOUS PAGE

Note that the portion of the table below represents ambient sampling from the receiving water collected as part of the whole effluent toxicity testing requirements. Samples taken in compliance with the monitoring requirements specified below shall be taken at a location that provides a representative analysis of the receiving water upstream of the permitted discharge's zone of influence as specified in Attachment A.

Ambient Characteristic	Ambient Reporting Requirements			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Hardness <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Alkalinity <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
pH <sup>9</sup> ; Standard Units	---	---	Report	1/Quarter	Grab
Specific Conductivity <sup>9</sup> ; umho/cm	---	---	Report	1/Quarter	Grab
Total Organic Carbon <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Ammonia Nitrogen as N <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Aluminum <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Cadmium <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Copper <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Nickel <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Lead <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Zinc <sup>9</sup> ; mg/l	---	---	Report	1/Quarter	Grab

See pages 5 and 6 for footnotes



## FOOTNOTES

1. The effluent flow shall be continuously measured and recorded using a flow meter and totalizer.  
  
The annual average, monthly average, and the maximum daily flows shall be reported. The limit of 11.5 mgd is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.
2. Effluent sampling frequency shall be twice per week. The influent concentrations of both CBOD<sub>5</sub> and TSS shall also be monitored at a frequency of twice per month using a 24-hour composite sampler, and the results reported as average monthly values.
3. Monthly average effluent loading shall be calculated as the average of the daily discharge loadings for the month.
4. State certification requirement.
5. The average monthly value for *Escherichia coli* shall be calculated as a geometric mean. *Escherichia coli* shall be tested using an approved method as specified in 40 Code of Federal Regulations (CFR) Part 136, List of Approved Biological Methods for Wastewater and Sewage Sludge.
6. LC50 (lethal concentration 50 percent) is the concentration of wastewater causing mortality to 50 % of the test organisms. Therefore, a 100 % limit means that a sample of 100 % effluent (no dilution) shall cause no greater than a 50 % mortality rate in that effluent sample.
7. The permittee shall conduct 48-hour static acute toxicity tests on effluent samples following the February 2011 USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol (**Attachment B**). The two species for these tests are the Daphnid (*Ceriodaphnia dubia*) and the Fathead Minnow (*Pimephales promelas*). Toxicity test samples shall be collected and tests completed four times per year during the calendar quarters ending March 31<sup>st</sup>, June 30<sup>th</sup>, September 30<sup>th</sup>, and December 31<sup>st</sup>. Toxicity test results are to be submitted by the 15<sup>th</sup> day of the month following the end of the quarter sampled.
8. This permit shall be modified, or alternatively, revoked and reissued to incorporate additional toxicity testing requirements, including chemical specific limits such as for metals, if the results of the toxicity tests indicate the discharge causes an exceedance of any State water quality criterion. Results from these toxicity tests are considered "New Information" and the permit may be modified as provided in 40 CFR Section 122.62(a)(2).
9. For each whole effluent toxicity test, the permittee shall report on the appropriate



discharge monitoring report (DMR) the concentrations of each parameter found in the 100 percent effluent and ambient samples. All these aforementioned chemical parameters shall be determined to at least the minimum quantification level shown in **Attachment B**. Also the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

**A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)**

2. The discharge shall not cause a violation of the water quality standards of the receiving water.
3. The discharge shall be adequately treated to ensure that the surface water remains free from pollutants in concentrations or combinations that settle to form harmful deposits, float as foam, debris, scum or other visible pollutants. It shall be adequately treated to ensure that the surface waters remain free from pollutants which produce odor, color, taste or turbidity in the receiving waters which is not naturally occurring and would render it unsuitable for its designated uses.
4. The permittee's treatment facility shall maintain a minimum monthly average of 85 percent removal of both CBOD<sub>5</sub> and TSS. The percent removal shall be calculated using the average monthly influent and effluent concentrations.
5. When the effluent discharged for a period of 3 consecutive months exceeds 80 percent of the 11.5 mgd design flow (9.2 mgd), the permittee shall submit to the permitting authorities a projection of loadings up to the time when the design capacity of the treatment facility will be reached, and a program for maintaining satisfactory treatment levels consistent with approved water quality management plans. Before the design flow will be reached, or whenever treatment necessary to achieve permit limits cannot be assured, the permittee may be required to submit plans for facility improvements.
6. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.
7. In accordance with 40 C.F.R. § 122.44(i)(1)(iv), the Permittee shall use sufficiently sensitive test procedures (i.e., methods) approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O, for the analysis of pollutants or pollutant parameters limited in this permit (except WET limits). A method is considered "sufficiently sensitive" when either (1) The method minimum level (ML) is at or below the level of the effluent limit established in this permit for the measured pollutant or pollutant parameter; or (2) The method has the lowest ML of the analytical methods approved under 40 C.F.R. Part 136 or required under 40 C.F.R. Chapter I, Subchapter N or O for the measured pollutant or pollutant parameter. The ML is not the minimum level of detection, but rather the lowest level at which the test equipment produces a recognizable signal and acceptable calibration point for a pollutant or pollutant parameter, representative of the lowest concentration at which a pollutant or pollutant parameter can be measured with a known level of confidence. For the purposes of this



permit, the detection limit is the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions (i.e., the level above which an actual value is reported for an analyte, and the level below which an analyte is reported as non-detect).

8. All POTWs must provide adequate notice to both EPA-Region 1 and the New Hampshire Department of Environmental Services, Water Division (NHDES-WD) of the following:

- a. Any new introduction of pollutants into the POTW from an indirect discharger in a primary industry category (see 40 CFR §122 Appendix A as amended) discharging process water; and
- b. 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.
- c. For purposes of this paragraph, adequate notice shall include information on:
  - (1) the quantity and quality of effluent introduced into the facility; and
  - (2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the facility.

9. Limitations for Industrial Users

- a. Pollutants introduced into the POTW by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
- b. The permittee shall submit to EPA and NHDES-WD the name of any Industrial User (IU) subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-430, 432-440, 442-447, 449-452, 454-455, 457-461, 463-469, and 471 as amended) who commences discharge to the POTW after the effective date of this permit.

This reporting requirement also applies to any other IU who discharges an average of 25,000 gallons per day or more of process wastewater into the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastewater which makes up five (5) percent or more of the average dry weather hydraulic or organic capacity of the POTW; or is designated as such by the Control Authority as defined in 40 CFR § 403.3(f) on the basis that the industrial user has a reasonable potential to adversely affect the wastewater treatment facility's operation, or for violating any pretreatment standard or requirement (in accordance with 40 CFR § 403.8(f)(6)).

- c. In the event that the permittee receives reports (baseline monitoring reports, 90-day compliance reports, periodic reports on continued compliance, etc.) from industrial users subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR Chapter I, Subchapter N (Parts 405-415, 417-430, 432-440, 442-447, 449-452, 454-455, 457-461, 463-469, and 471 as amended), the permittee shall forward all copies of these reports within ninety (90) days of their receipt to EPA and NHDES-WD.

## **B. UNAUTHORIZED DISCHARGES**

This permit authorizes discharges only from the outfall(s) listed in Part I.A.1 in accordance with the terms and conditions of this permit. Discharges of wastewater from any other point sources, including sanitary sewer overflows (SSOs), are not authorized by this permit and shall be reported to EPA and NHDES in accordance with Part II, Section D.1.e of the General Requirements of this permit (twenty four hour reporting).

## **C. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM**

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the following terms and conditions. The permittee and co-permittees are required to complete the following activities for the collection system which it owns:

### **1. Maintenance Staff**

The permittee and co-permittees shall provide an adequate staff to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. This requirement shall be described in the Collection System Operation and Maintenance (O & M) Plan required pursuant to Section C.5. below.

### **2. Preventative Maintenance Program**

The permittee and co-permittees shall maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure. The program shall include an inspection program designed to identify all potential and actual unauthorized discharges. This requirement shall be described in the Collection System O & M Plan required pursuant to Section C.5. below.

### **3. Infiltration/Inflow**

The permittee and co-permittees shall control infiltration and inflow (I/I) into the sewer system as necessary to prevent high flow related unauthorized discharges from their collection systems and high flow related violations of the wastewater treatment plant's effluent limitations. Plans and programs to control I/I shall be described in the Collection System O & M Plan required pursuant to Section C.5. below.



#### 4. Collection System Mapping

In accordance with the requirements in the 2009 permit, the permittee and co-permittees prepared maps of the sewer collection systems they own. The collection system maps shall be kept up-to-date and available for review by federal, state, and local agencies as well as the public. The newly added co-permittees (the Town of Sanbornton and the DAS Lakes Region Facility) shall prepare and submit these maps to EPA and NHDES within 48 months from the effective date of this permit. Such map(s) shall include, but not be limited to the following:

- a. All collection system lines and related manholes;
- b. All combined sewer lines, related manholes, and catch basins;
- c. All combined sewer regulators and any known or suspected connections between the sanitary sewer and storm drain systems (e.g. combined manholes);
- d. All outfalls, including the treatment plant outfall(s), CSOs, combined manholes, and any known or suspected SSOs;
- e. All pump stations and force mains;
- f. The wastewater treatment facility(ies);
- g. All surface waters (labeled);
- h. Other major appurtenances such as inverted siphons and air release valves;
- i. A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators and outfalls;
- j. The scale and a north arrow; and
- k. The pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow.

#### 5. Collection System Operation and Maintenance Plan

In accordance with the requirements in the 2009 permit, the permittee and co-permittees prepared and submitted Collection System Operation and Maintenance Plans. The plans shall be kept up-to-date and available for review by federal, state, and local agencies. The newly added co-permittees (the Town of Sanbornton and the DAS Lakes Region Facility) shall prepare and submit this plan to EPA and NHDES within 24 months from the effective date of this permit. The plans shall include the information listed below.

- a. A description of the collection system management goals, staffing, information management, and legal authorities;
- b. A preventative maintenance and monitoring program for the collection system;
- c. Sufficient staffing to properly operate and maintain the collection system;
- d. Sufficient funding and the source(s) of funding for implementing the plan;
- e. Identification of known and suspected overflows and back-ups, including combined manholes, a description of the cause of the identified overflows and back-ups, and a plan for addressing the overflows and back-ups consistent with the requirements of this permit;

- f. A description of the permittee's and co-permittees' program for preventing I/I related effluent violations and all unauthorized discharges of wastewater, including overflows and by-passes and the ongoing program to identify and remove sources of I/I. The program shall include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts; and
- g. An educational public outreach program for all aspects of I/I control, particularly private inflow.

#### 6. Annual Reporting Requirement

The permittee and co-permittees shall submit a summary report of activities related to the implementation of its Collection System O & M Plan during the previous calendar year. The financial analysis of the annual report can be based on either the State's fiscal year or the calendar year. The report shall be submitted to EPA and NHDES **annually by April 15**. The summary report shall, at a minimum, include:

- a. A description of the staffing levels maintained during the year;
- b. A map and a description of inspection and maintenance activities conducted and corrective actions taken during the previous year;
- c. Expenditures for any collection system maintenance activities and corrective actions taken during the previous calendar or fiscal year;
- d. A map with areas identified for investigation/action in the coming year;
- e. If treatment plant flow has reached 80% of the 11.5 mgd design flow (9.2 mgd) based on the daily flow for three consecutive months or there have been capacity related overflows, submit a calculation of the maximum daily, weekly, and monthly infiltration and the maximum daily, weekly, and monthly inflow for the reporting year; and
- f. A summary of unauthorized discharges during the past year and their causes and a report of any corrective actions taken as a result of the unauthorized discharges reported pursuant to the Unauthorized Discharges section of this permit.

#### D. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and any co-permittee that has a pump station within the collection system shall provide an alternate power source with which to sufficiently operate the wastewater facility and pump stations, as defined at 40 C.F.R. § 122.2, which references the definition at 40 C.F.R. § 403.3(q).

Wastewater facility is defined by RSA 485A:2.XIX as the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge.

#### E. INDUSTRIAL USER CONDITIONS

1. Limitations for Industrial Users:



- a. A user may not introduce into a POTW any pollutant(s) which cause pass through or interference with the operation or performance of the treatment works. The terms "user", "pass through", and "interference" are defined in 40 C.F.R. § 403.3.
  - b. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial Users(s) and all other users as necessary, which together with appropriate changes in the POTW Treatment Plant's facilities or operation, are essential to ensure continued compliance with the POTW's NPDES permit or sludge use or disposal practices. Specific local limits shall not be developed and enforced without individual notice to persons or groups who have requested such notice and an opportunity to respond. Within 90 days of the effective date of this permit, the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits under WRBP jurisdiction. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety, and collection system concerns. In preparing this evaluation, the permittee shall complete and submit the attached form (see **Attachment C – Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall propose revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. Following EPA approval, the permittee shall submit the proposed changes to the New Hampshire Legislature for approval. The Permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).
2. Industrial Pretreatment Program
- a. The permittee shall implement the Industrial Pretreatment Program in accordance with the legal authorities, policies, procedures, and financial provisions described in the permittee's approved Pretreatment Program and the General Pretreatment Regulations, 40 C.F.R. § 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):
    - (1) Carry out inspection, surveillance, and monitoring procedures which will determine, independent of information supplied by the industrial user, whether the industrial user is in compliance with the Pretreatment Standards. At a minimum, all significant industrial users shall be sampled and inspected at the frequency established in the approved IPP, but in no case less than once per year, and maintain adequate records.

- (2) Issue or renew all necessary industrial user control mechanisms within 90 days of their expiration date or within 180 days after the industry has been determined to be a significant industrial user.
  - (3) Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.
  - (4) Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.
- b. The permittee shall provide the EPA and the NHDES-WD with an annual report describing the permittee's pretreatment program activities for the twelve month period ending 60 days prior to the due date in accordance with 40 C.F.R. § 403.12(i). The annual report shall be consistent with the format described in **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) and shall be submitted no later than **May 1<sup>st</sup>** of each year.
  - c. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 C.F.R. § 403.18(c).
  - d. The permittee must assure that applicable National Categorical Pretreatment Standards are met by all categorical industrial users of the POTW. These standards are published in the Federal Regulations at 40 C.F.R. § 405-415, 417-430, 432-440, 442-447, 449-452, 454-455, 457-461, 463-469, and 471 as amended.
  - e. The permittee must modify its pretreatment program to conform to all changes in the Federal Regulations that pertain to the implementation and enforcement of the Industrial Pretreatment Program. The permittee must provide EPA, in writing, within 180 days of the effective date of this permit, proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current Federal Regulations. At a minimum, the permittee must address in its written submission the following areas: (1) enforcement response plan; (2) revised sewer use ordinances; (3) slug control evaluations. Following EPA approval of proposed modifications, the permittee shall submit the proposed changes to the New Hampshire Legislature for approval.

#### **F. SLUDGE CONDITIONS**

1. The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices, including EPA regulations promulgated at 40 CFR Part 503, which prescribe "Standards for the Use or Disposal of Sewage Sludge" pursuant to Section 405(d) of the CWA, 33 U.S.C. § 1345(d), and RSA 485-A and Env-Wq 800, New Hampshire Sludge Management Rules.



2. If both state and federal requirements apply to the permittee's sludge use and/or disposal practices, the permittee shall comply with the more stringent of the applicable requirements.
3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices.
  - a. Land application - the use of sewage sludge to condition or fertilize the soil
  - b. Surface disposal - the placement of sewage sludge in a sludge only landfill
  - c. Sewage sludge incineration in a sludge only incinerator
4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g., lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.
5. The 40 CFR. Part 503 requirements including the following elements:
  - General requirements
  - Pollutant limitations
  - Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)
  - Management practices
  - Record keeping
  - Monitoring
  - Reporting

Which of the 40 C.F.R. Part 503 requirements apply to the permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility. The EPA Region 1 Guidance document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the permittee to assist it in determining the applicable requirements.<sup>1</sup>

---

<sup>1</sup> This guidance document is available upon request from EPA Region 1 and may also be found at:  
<http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf>

6. The sludge shall be monitored for pollutant concentrations (all Part 503 methods) and pathogen reduction and vector attraction reduction (land application and surface disposal) at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year.

less than 290	1/ year
290 to less than 1,500	1 /quarter
1,500 to less than 15,000	6 /year
15,000 +	1 /month

Sampling of the sewage sludge shall use the procedures detailed in 40 CFR 503.8.

7. Under 40 CFR § 503.9(r), the permittee is a "person who prepares sewage sludge" because it "is ... the person who generates sewage sludge during the treatment of domestic sewage in a treatment works ..." If the permittee contracts with *another* "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.
8. The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted to the address contained in the reporting section of the permit. If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:
- Name and address of contractor(s) responsible for sludge preparation, use or disposal
  - Quantity of sludge (in dry metric tons ) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge
9. Compliance with the requirements of this permit or 40 CFR Part 503 shall not eliminate or modify the need to comply with applicable requirements under RSA 485-A and Env-Wq 800, New Hampshire Sludge Management Rules.

## G. SPECIAL CONDITIONS

1. WET Test Frequency Adjustment



The permittee may submit a written request to the EPA-Region 1 requesting a reduction in the frequency of required toxicity testing, after completion of a minimum of the most recent four (4) successive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the permit limits for whole effluent toxicity. Until written notice is received by certified mail from the EPA-Region 1 indicating that the WET testing requirement has been changed, the permittee is required to continue testing at the frequency specified in the respective permit.

## H. MONITORING AND REPORTING

The monitoring program in the permit specifies sampling and analysis, which will provide continuous information on compliance and the reliability and effectiveness of the installed pollution abatement equipment. The approved analytical procedures found in 40 CFR Part 136 are required unless other procedures are explicitly required in the permit. The Permittee is obligated to monitor and report sampling results to EPA and the NHDES within the time specified within the permit.

Unless otherwise specified in this permit, the permittee shall submit reports, requests, and information and provide notices in the manner described in this section.

### 1. Submittal of DMRs Using NetDMR

The permittee shall continue to submit its monthly monitoring data in Discharge Monitoring Reports (DMRs) to EPA and NHDES no later than the 15th day of the month electronically using NetDMR. When the permittee submits DMRs using NetDMR, it is not required to submit hard copies of DMRs to EPA or NHDES.

### 2. Submittal of Reports as NetDMR Attachments

Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA and NHDES as NetDMR attachments rather than as hard copies. This includes the NHDES Monthly Operating Reports (MORs). (See Part I.H.6. for more information on State reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15<sup>th</sup> day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA and NHDES using NetDMR with the next DMR due following the particular report due date specified in this permit.

### 3. Submittal of Pretreatment Related Reports

All reports and information required of the permittee in the Industrial Users and Pretreatment Program section of this permit shall be submitted to the Office of Ecosystem Protection's Pretreatment Coordinator in Region 1 EPA's Office of Ecosystem Protection (OEP). These requests, reports and notices include:

- A. Annual Pretreatment Reports,
- B. Pretreatment Reports Reassessment of Technically Based Industrial Discharge Limits Form,
- C. Revisions to Industrial Discharge Limits,
- D. Report describing Pretreatment Program activities, and
- E. Proposed changes to a Pretreatment Program

This information shall be submitted to EPA/OEP as a hard copy to the following address:

**U.S. Environmental Protection Agency  
Office of Ecosystem Protection  
Regional Pretreatment Coordinator  
5 Post Office Square - Suite 100 (OEP06-03)  
Boston, MA 02109-3912**

4. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/OEP NPDES Applications Coordinator in the EPA Office Ecosystem Protection (OEP).

- A. Transfer of permit notice
- B. Request for changes in sampling location
- C. Request for reduction in testing frequency
- D. Request for reduction in WET testing requirement
- E. Report on unacceptable dilution water / request for alternative dilution water for WET testing

These reports, information, and requests shall be submitted to EPA/OEP electronically at [R1NPDES.Notices.OEP@epa.gov](mailto:R1NPDES.Notices.OEP@epa.gov) or by hard copy mail at the following address:

**U.S. Environmental Protection Agency  
Office of Ecosystem Protection  
EPA/OEP NPDES Applications Coordinator  
5 Post Office Square - Suite 100 (OEP06-03)  
Boston, MA 02109-3912**

5. Submittal of Reports in Hard Copy Form

The following notifications and reports shall be submitted as hard copy with a cover letter describing the submission. These reports shall be signed and dated originals submitted to EPA.

- A. Written notifications required under Part II
- B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting



- C. Collection System Operation and Maintenance Plan (from co-permittees)
- D. Report on annual activities related to O&M Plan (from co-permittees)
- E. Sludge monitoring reports

This information shall be submitted to EPA/OES at the following address:

**U.S. Environmental Protection Agency  
Office of Environmental Stewardship (OES)  
Water Technical Unit  
5 Post Office Square, Suite 100 (OES04-SMR)  
Boston, MA 02109-3912**

All sludge monitoring reports required herein shall be submitted only to:

**U.S. Environmental Protection Agency, Region 7  
Biosolids Center  
Water Enforcement Branch  
11201 Renner Boulevard  
Lenexa, Kansas 66219**

6. State Reporting

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.H.3, I.H.4, and I.H.5 also shall be submitted to the State electronically via email to the permittee's assigned NPDES inspector at NHDES-WD or in hard copy to the following address:

**New Hampshire Department of Environmental Services  
Water Division  
Wastewater Engineering Bureau  
P.O. Box 95  
Concord, New Hampshire 03302-0095**

7. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to NHDES. This includes verbal reports and notifications which require reporting within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made to EPA's Office of Environmental Stewardship at:

**617-918-1510**

Verbal reports and verbal notifications shall also be made to the permittee's assigned NPDES inspector at NHDES -WD.

**I. STATE PERMIT CONDITIONS**

1. The permittee shall not at any time, either alone or in conjunction with any person or persons, cause directly or indirectly the discharge of waste into the said receiving water unless it has been treated in such a manner as will not lower the legislated water quality classification or interfere with the uses assigned to said water by the New Hampshire Legislature (RSA 485-A:12).
2. This NPDES discharge permit is issued by EPA under federal and state law. Upon final issuance by EPA, the New Hampshire Department of Environmental Services-Water Division (NHDES-WD) may adopt this permit, including all terms and conditions, as a state permit pursuant to RSA 485-A:13.
3. EPA shall have the right to enforce the terms and conditions of this permit pursuant to federal law and NHDES-WD shall have the right to enforce the permit pursuant to state law, if the permit is adopted. Any modification, suspension, or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of the permit as issued by the other agency.
4. Pursuant to New Hampshire Statute RSA 485-A:13, I(c), any person responsible for a bypass or upset at a *wastewater facility* shall give immediate notice of a bypass or upset to all public or privately owned water systems drawing water from the same receiving water and located within 20 miles downstream of the point of discharge regardless of whether or not it is on the same receiving water or on another surface water to which the receiving water is tributary. Wastewater facility is defined at RSA 485-A:2XIX as the structures, equipment, and processes required to collect, convey, and treat domestic and industrial wastes, and dispose of the effluent and sludge. The permittee shall maintain a list of persons, and their telephone numbers, who are to be notified immediately by telephone. In addition, written notification, which shall be postmarked within 3 days of the bypass or upset, shall be sent to such persons.
5. The pH range of 6.0 to 8.0 Standard Units (S.U.) must be achieved in the final effluent unless the permittee can demonstrate to NHDES-WD: (1) that the range should be widened due to naturally occurring conditions in the receiving water or (2) that the naturally occurring receiving water pH is not significantly altered by the permittee's discharge. The scope of any demonstration project must receive prior approval from NHDES-WD. In no case, shall the above procedure result in pH limits outside the range of 6.0 – 9.0 S.U., which is the federal effluent limitation guideline regulation for pH for secondary treatment and is found in 40 CFR 133.102(c).
6. Pursuant to New Hampshire Code of Administrative Rules, Env-Wq 703.07(a):
  - a. Any person proposing to construct or modify any of the following shall submit an application for a sewer connection permit to the department:



- (1) Any extension of a collector or interceptor, whether public or private, regardless of flow;
  - (2) Any wastewater connection or other discharge in excess of 5,000 gpd;
  - (3) Any wastewater connection or other discharge to a WWTP operating in excess of 80 percent design flow capacity based on actual average flow for 3 consecutive months;
  - (4) Any industrial wastewater connection or change in existing discharge of industrial wastewater, regardless of quality or quantity; and
  - (5) Any sewage pumping station greater than 50 gpm or serving more than one building.
7. For each new or increased discharge of industrial waste to the POTW, the permittee shall submit, in accordance with Env-Wq 305.10(b) an "Industrial Wastewater Discharge Request." The "Industrial Wastewater Discharge Request" shall be prepared in accordance with Env-Wq 305.10(c).
8. Pursuant to Env-Wq 305.21, at a frequency no less than every five years, the permittee shall submit to NHDES:
  - a. A copy of its current sewer use ordinance if it has been revised without NHDES approval subsequent to any previous submittal to the department or a certification that no changes have been made.
  - b. A current list of all significant indirect dischargers to the POTW. At a minimum, the list shall include for each significant indirect discharger, its name and address, the name and daytime telephone number of a contact person, products manufactured, industrial processes used, existing pretreatment processes, and discharge permit status.
  - c. A list of all permitted indirect dischargers; and
  - d. A certification that the municipality is strictly enforcing its sewer use ordinance and all discharge permits it has issued.
9. In addition to submitting DMRs, monitoring results shall also be summarized for each calendar month and reported on separate Monthly Operations Report Form(s) (MORs) postmarked or submitted electronically using NetDMR no later than the 15<sup>th</sup> day of the month following the completed reporting period. Signed and dated MORs, which are not submitted electronically using NetDMR shall be submitted to:

New Hampshire Department of Environmental Services (NHDES)

Water Division

Wastewater Engineering Bureau

29 Hazen Drive, P.O. Box 95

Concord, New Hampshire 03302-0095



**ATTACHMENT A**

**CO-PERMITTEES FOR THE  
WINNEPESAUKEE RIVER BASIN PROGRAM  
WASTEWATER TREATMENT PLANT  
NPDES PERMIT NO. NH0100960**

Belmont

Town of Belmont  
Attn: Belmont Sewer Department  
143 Main Street  
P.O. Box 310  
Belmont, New Hampshire 03220

Lakes Region Facility

Lakes Region Facility  
Attn: NH Department of Administrative  
Services (DAS)  
129 Pleasant St.  
Concord, NH 03301

Center Harbor/Moultonboro

Town of Center Harbor  
Attn: Bay District Sewer Commission  
P.O. Box 1527  
Center Harbor, New Hampshire 03226

Meredith

Town of Meredith  
Attn: Water and Sewer Department  
50 Waukegan Street  
Meredith, New Hampshire 03253

Franklin

City of Franklin  
Attn: Department of Municipal Services  
43 West Bow Street  
Franklin, New Hampshire 03235

Northfield

Town of Northfield  
Attn: Northfield Sewer Commission  
133 Park Street, P.O. Box 3070  
Tilton, New Hampshire 03276

Gilford

Town of Gilford  
Attn: Director of Public Works  
47 Cherry Valley Road  
Gilford, New Hampshire 03249

Sanbornton

Town of Sanbornton  
Attn: Town Administrator  
P.O. Box 124  
Sanbornton, NH 03269

Laconia

City of Laconia  
Attn: Public Works Department  
27 Bisson Avenue  
Laconia, New Hampshire 03246

Tilton

Town of Tilton  
Attn: Tilton Sewer Commission  
257 Main Street  
Tilton, New Hampshire 03276

# USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

## I. GENERAL REQUIREMENTS

The permittee shall conduct acceptable acute toxicity tests in accordance with the appropriate test protocols described below:

- **Daphnid (Ceriodaphnia dubia) definitive 48 hour test.**
- **Fathead Minnow (Pimephales promelas) definitive 48 hour test.**

Acute toxicity test data shall be reported as outlined in Section VIII.

## II. METHODS

The permittee shall use 40 CFR Part 136 methods. Methods and guidance may be found at:

[http://water.epa.gov/scitech/methods/cwa/wet/disk2\\_index.cfm](http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm)

The permittee shall also meet the sampling, analysis and reporting requirements included in this protocol. This protocol defines more specific requirements while still being consistent with the Part 136 methods. If, due to modifications of Part 136, there are conflicting requirements between the Part 136 method and this protocol, the permittee shall comply with the requirements of the Part 136 method.

## III. SAMPLE COLLECTION

A discharge sample shall be collected. Aliquots shall be split from the sample, containerized and preserved (as per 40 CFR Part 136) for chemical and physical analyses required. The remaining sample shall be measured for total residual chlorine and dechlorinated (if detected) in the laboratory using sodium thiosulfate for subsequent toxicity testing. (Note that EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection.) Grab samples must be used for pH, temperature, and total residual chlorine (as per 40 CFR Part 122.21).

Standard Methods for the Examination of Water and Wastewater describes dechlorination of samples (APHA, 1992). Dechlorination can be achieved using a ratio of 6.7 mg/L anhydrous sodium thiosulfate to reduce 1.0 mg/L chlorine. If dechlorination is necessary, a thiosulfate control (maximum amount of thiosulfate in lab control or receiving water) must also be run in the WET test.

All samples held overnight shall be refrigerated at 1- 6°C.



#### IV. DILUTION WATER

A grab sample of dilution water used for acute toxicity testing shall be collected from the receiving water at a point immediately upstream of the permitted discharge's zone of influence at a reasonably accessible location. Avoid collection near areas of obvious road or agricultural runoff, storm sewers or other point source discharges and areas where stagnant conditions exist. In the case where an alternate dilution water has been agreed upon an additional receiving water control (0% effluent) must also be tested.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable, an alternate standard dilution water of known quality with a hardness, pH, conductivity, alkalinity, organic carbon, and total suspended solids similar to that of the receiving water may be substituted **AFTER RECEIVING WRITTEN APPROVAL FROM THE PERMIT ISSUING AGENCY(S)**. Written requests for use of an alternate dilution water should be mailed with supporting documentation to the following address:

Director  
Office of Ecosystem Protection (CAA)  
U.S. Environmental Protection Agency-New England  
5 Post Office Sq., Suite 100 (OEP06-5)  
Boston, MA 02109-3912

and

Manager  
Water Technical Unit (SEW)  
U.S. Environmental Protection Agency  
5 Post Office Sq., Suite 100 (OES04-4)  
Boston, MA 02109-3912

Note: USEPA Region 1 retains the right to modify any part of the alternate dilution water policy stated in this protocol at any time. Any changes to this policy will be documented in the annual DMR posting.

*See the most current annual DMR instructions which can be found on the EPA Region 1 website at <http://www.epa.gov/region1/enforcement/water/dmr.html> for further important details on alternate dilution water substitution requests.*

It may prove beneficial to have the proposed dilution water source screened for suitability prior to toxicity testing. EPA strongly urges that screening be done prior to set up of a full definitive toxicity test any time there is question about the dilution water's ability to support acceptable performance as outlined in the 'test acceptability' section of the protocol.

#### V. TEST CONDITIONS

The following tables summarize the accepted daphnid and fathead minnow toxicity test conditions and test acceptability criteria:

**EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS<sup>1</sup>**

1.	Test type	Static, non-renewal
2.	Temperature (°C)	20 ± 1°C or 25 ± 1°C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hour light, 8 hour dark
5.	Test chamber size	Minimum 30 ml
6.	Test solution volume	Minimum 15 ml
7.	Age of test organisms	1-24 hours (neonates)
8.	No. of daphnids per test chamber	5
9.	No. of replicate test chambers per treatment	4
10.	Total no. daphnids per test concentration	20
11.	Feeding regime	As per manual, lightly feed YCT and <u>Selenastrum</u> to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water <sup>2</sup>	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q <sup>R</sup> or equivalent deionized water and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14.	Dilution series	≥ 0.5, must bracket the permitted RWC
15.	Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution



series.

- |     |                        |  |
|-----|------------------------|--|
| 16. | Effect measured        | Mortality-no movement of body<br>or appendages on gentle prodding  |
| 17. | Test acceptability     | 90% or greater survival of test organisms in<br>dilution water control solution  |
| 18. | Sampling requirements  | For on-site tests, samples must be used<br>within 24 hours of the time that they are<br>removed from the sampling device. For off-<br>site tests, samples must first be used within<br>36 hours of collection. |
| 19. | Sample volume required | Minimum 1 liter  |

---

Footnotes:

1. Adapted from EPA-821-R-02-012.
2. Standard prepared dilution water must have hardness requirements to generally reflect the characteristics of the receiving water.

**EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW  
(PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST<sup>1</sup>**

---

1. Test Type	Static, non-renewal
2. Temperature (°C)	$20 \pm 1$ °C or $25 \pm 1$ °C
3. Light quality	Ambient laboratory illumination
4. Photoperiod	16 hr light, 8 hr dark
5. Size of test vessels	250 mL minimum
6. Volume of test solution	Minimum 200 mL/replicate
7. Age of fish	1-14 days old and age within 24 hrs of each other
8. No. of fish per chamber	10
9. No. of replicate test vessels per treatment	4
10. Total no. organisms per concentration	40
11. Feeding regime	As per manual, lightly feed test age larvae using concentrated brine shrimp nauplii while holding prior to initiating test
12. Aeration	None, unless dissolved oxygen (D.O.) concentration falls below 4.0 mg/L, at which time gentle single bubble aeration should be started at a rate of less than 100 bubbles/min. (Routine D.O. check is recommended.)
13. dilution water <sup>2</sup>	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q <sup>R</sup> or equivalent deionized and reagent grade chemicals according to EPA acute toxicity test manual) or deionized water combined with mineral water to appropriate hardness.
14. Dilution series	$\geq 0.5$ , must bracket the permitted RWC



15. Number of dilutions	5 plus receiving water and laboratory water control and thiosulfate control, as necessary. An additional dilution at the permitted effluent concentration (% effluent) is required if it is not included in the dilution series.
16. Effect measured	Mortality-no movement on gentle prodding
17. Test acceptability	90% or greater survival of test organisms in dilution water control solution
18. Sampling requirements	For on-site tests, samples must be used within 24 hours of the time that they are removed from the sampling device. For off-site tests, samples are used within 36 hours of collection.
19. Sample volume required	Minimum 2 liters

---

Footnotes:

1. Adapted from EPA-821-R-02-012
2. Standard dilution water must have hardness requirements to generally reflect characteristics of the receiving water.

## VI. CHEMICAL ANALYSIS

At the beginning of a static acute toxicity test, pH, conductivity, total residual chlorine, oxygen, hardness, alkalinity and temperature must be measured in the highest effluent concentration and the dilution water. Dissolved oxygen, pH and temperature are also measured at 24 and 48 hour intervals in all dilutions. The following chemical analyses shall be performed on the 100 percent effluent sample and the upstream water sample for each sampling event.

<u>Parameter</u>	Effluent	Receiving Water	ML (mg/l)
Hardness <sup>1</sup>	x	x	0.5
Total Residual Chlorine (TRC) <sup>2, 3</sup>	x		0.02
Alkalinity	x	x	2.0
pH	x	x	--
Specific Conductance	x	x	--
Total Solids	x		--
Total Dissolved Solids	x		--
Ammonia	x	x	0.1
Total Organic Carbon	x	x	0.5
Total Metals			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

### Notes:

- Hardness may be determined by:
  - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
    - Method 2340B (hardness by calculation)
    - Method 2340C (titration)
- Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.
  - APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
    - Method 4500-CL E Low Level Amperometric Titration
    - Method 4500-CL G DPD Colorimetric Method
- Required to be performed on the sample used for WET testing prior to its use for toxicity testing.



## **VII. TOXICITY TEST DATA ANALYSIS**

### LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Kärber
- Trimmed Spearman-Kärber
- Graphical

See the flow chart in Figure 6 on p. 73 of EPA-821-R-02-012 for appropriate method to use on a given data set.

### No Observed Acute Effect Level (NOAEL)

See the flow chart in Figure 13 on p. 87 of EPA-821-R-02-012.

## **VIII. TOXICITY TEST REPORTING**

A report of the results will include the following:

- Description of sample collection procedures, site description
- Names of individuals collecting and transporting samples, times and dates of sample collection and analysis on chain-of-custody
- General description of tests: age of test organisms, origin, dates and results of standard toxicant tests; light and temperature regime; other information on test conditions if different than procedures recommended. Reference toxicant test data should be included.
- All chemical/physical data generated. (Include minimum detection levels and minimum quantification levels.)
- Raw data and bench sheets.
- Provide a description of dechlorination procedures (as applicable).
- Any other observations or test conditions affecting test outcome.

## **EPA - New England**

### **Reassessment of Technically Based Industrial Discharge Limits**

Under 40 CFR §122.21(j)(4), all Publicly Owned Treatment Works (POTWs) with approved Industrial Pretreatment Programs (IPPs) shall provide the following information to the Director: a written evaluation of the need to revise local industrial discharge limits under 40 CFR §403.5(c)(1).

Below is a form designed by the U.S. Environmental Protection Agency (EPA - New England) to assist POTWs with approved IPPs in evaluating whether their existing Technically Based Local Limits (TBLLs) need to be recalculated. The form allows the permittee and EPA to evaluate and compare pertinent information used in previous TBLLs calculations against present conditions at the POTW.

**Please read direction below before filling out form.**

#### **ITEM I.**

- \* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.
- \* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.
- \* In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ratio and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

The 7Q10 value is the lowest seven day average flow rate, in the river, over a ten year period. The 7Q10 value and/or dilution ratio used by EPA in your new NPDES permit can be found in your NPDES permit "Fact Sheet."

- \* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.
- \* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.



## ITEM II.

- \* List what your existing TBLLs are - as they appear in your current Sewer Use Ordinance (SUO).

## ITEM III.

- \* Identify how your existing TBLLs are allocated out to your industrial community. Some pollutants may be allocated differently than others, if so please explain.

## ITEM IV.

- \* Since your existing TBLLs were calculated, identify the following in detail:
  - (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.
  - (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

## ITEM V.

- \* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in pounds per day) received in the POTW's influent. Current sampling data is defined as data obtained over the last 24 month period.

All influent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

- \* Based on your existing TBLLs, as presented in Item II., list in Column (2), for each pollutant the Maximum Allowable Headwork Loading (MAHL) values derived from an applicable environmental criteria or standard, e.g. water quality, sludge, NPDES, inhibition, etc. For more information, please see EPA's Local Limit Guidance Document (July 2004).

## Item VI.

- \* Using current sampling data, list in Column (1) the average and maximum amount of pollutants (in micrograms per liter) present your POTW's effluent. Current sampling data is defined as data obtained during the last 24 month period.

**(Item VI. continued)**

All effluent data collected and analyzed must be in accordance with 40 CFR §136. Sampling data collected should be analyzed using the lowest possible detection method(s), e.g. graphite furnace.

- \* List in Column (2A) what the Water Quality Standards (WQS) were (in micrograms per liter) when your TBLLs were calculated, please note what hardness value was used at that time. Hardness should be expressed in milligram per liter of Calcium Carbonate.

List in Column (2B) the current WQSs or "Chronic Gold Book" values for each pollutant multiplied by the dilution ratio used in your new/reissued NPDES permit. For example, with a dilution ratio of 25:1 at a hardness of 25 mg/l - Calcium Carbonate (copper's chronic WQS equals 6.54 ug/l) the chronic NPDES permit limit for copper would equal 156.25 ug/l.

**ITEM VII.**

- \* In Column (1), list all pollutants (in micrograms per liter) limited in your new/reissued NPDES permit. In Column (2), list all pollutants limited in your old/expired NPDES permit.

**ITEM VIII.**

- \* Using current sampling data, list in Column (1) the average and maximum amount of pollutants in your POTW's biosolids. Current data is defined as data obtained during the last 24 month period. Results are to be expressed as total dry weight.

All biosolids data collected and analyzed must be in accordance with 40 CFR §136.

In Column (2A), list current State and/or Federal sludge standards that your facility's biosolids must comply with. Also note how your POTW currently manages the disposal of its biosolids. If your POTW is planning on managing its biosolids differently, list in Column (2B) what your new biosolids criteria will be and method of disposal.

In general, please be sure the units reported are correct and all pertinent information is included in your evaluation. If you have any questions, please contact your pretreatment representative at EPA - New England.

POTW Name & Address : \_\_\_\_\_

Date EPA approved current TBLLs :

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.		
	Column (1) EXISTING TBLLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)		
Dilution Ratio or 7Q10 (from NPDES Permit)		
SIU Flow (MGD)		
Safety Factor		N/A
Biosolids Disposal Method(s)		



**ITEM II.**

EXISTING TBLLs			
POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)	POLLUTANT	NUMERICAL LIMIT (mg/l) or (lb/day)

**ITEM III.**

Note how your existing TBLLs, listed in Item II., are allocated to your Significant Industrial Users (SIUs), i.e. uniform concentration, contributory flow, mass proportioning, other. Please specify by circling.

**ITEM IV.**

Has your POTW experienced any upsets, inhibition, interference or pass-through from industrial sources since your existing TBLLs were calculated?

If yes, explain.

---

---

Has your POTW violated any of its NPDES permit limits and/or toxicity test requirements?

If yes, explain.

---

---

# ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Headwork Loading (MAHL) values used to derive your TBLLs listed in Item II. In addition, please note the Environmental Criteria for which each MAHL value was established, i.e. water quality, sludge, NPDES etc.

Pollutant	Column (1) Influent Data Analyses		Column (2)	Criteria
	Maximum (lb/day)	Average (lb/day)	MAHL Values (lb/day)	
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Other (List)				

# ITEM VI.

Using current POTW effluent sampling data, fill in Column (1). In Column (2A) list what the Water Quality Standards (Gold Book Criteria) were at the time your existing TBLLs were developed. List in Column (2B) current Gold Book values multiplied by the dilution ratio used in your new/reissued NPDES permit.

Pollutant	Column (1)		Columns (2A) (2B)	
	Effluent Data Analyses Maximum (ug/l)	Average (ug/l)	Water Quality Criteria (Gold Book) From TBLLs Today (ug/l) (ug/l)	
Arsenic				
*Cadmium				
*Chromium				
*Copper				
Cyanide				
*Lead				
Mercury				
*Nickel				
Silver				
*Zinc				
Other (List)				

\*Hardness Dependent (mg/l - CaCO<sub>3</sub>)



ITEM VII.

In Column (1), identify all pollutants limited in your new/reissued NPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.

[illegible]

### ITEM VIII.

Using current POTW biosolids data, fill in Column (1). In Column (2A), list the biosolids criteria that was used at the time your existing TBLLs were calculated. If your POTW is planing on managing its biosolids differently, list in Column (2B) what your new biosolids criteria would be and method of disposal.

Pollutant	Column (1)	Biosolids	Columns	
	Data Analyses		(2A)	(2B)
	Average		Biosolids Criteria	
	(mg/kg)		From TBLLs	New
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Molybdenum				
Selenium				
Other (List)				

NPDES PERMIT REQUIREMENT  
FOR  
INDUSTRIAL PRETREATMENT ANNUAL REPORT

The information described below shall be included in the pretreatment program annual reports:

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
  - baseline monitoring reporting requirements for newly promulgated industries
  - compliance status reporting requirements for newly promulgated industries
  - periodic (semi-annual) monitoring reporting requirements,
  - categorical standards, and
  - local limits;
2. A summary of compliance and enforcement activities during the preceding year, including the number of:
  - significant industrial users inspected by POTW (include inspection dates for each industrial user),
  - significant industrial users sampled by POTW (include sampling dates for each industrial user),
  - compliance schedules issued (include list of subject users),
  - written notices of violations issued (include list of subject users),
  - administrative orders issued (include list of subject users),
  - criminal or civil suits filed (include list of subject users) and,
  - penalties obtained (include list of subject users and penalty amounts);
3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);
4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;
5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.



At a minimum, annual sampling and analysis of the influent and effluent of the Wastewater Treatment Plant shall be conducted for the following pollutants:

- |                    |                   |
|--------------------|-------------------|
| a.) Total Cadmium  | f.) Total Nickel  |
| b.) Total Chromium | g.) Total Silver  |
| c.) Total Copper   | h.) Total Zinc    |
| d.) Total Lead     | i.) Total Cyanide |
| e.) Total Mercury  | j.) Total Arsenic |

The sampling program shall consist of one 24-hour flow-proportioned composite and at least one grab sample that is representative of the flows received by the POTW. The composite shall consist of hourly flow-proportioned grab samples taken over a 24-hour period if the sample is collected manually or shall consist of a minimum of 48 samples collected at 30 minute intervals if an automated sampler is used. Cyanide shall be taken as a grab sample during the same period as the composite sample. Sampling and preservation shall be consistent with 40 CFR Part 136.

6. A detailed description of all interference and pass-through that occurred during the past year;
7. A thorough description of all investigations into interference and pass-through during the past year;
8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;
9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,
10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.