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"),

Winnipesaukee 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 Winnipesaukee 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 4th day of October, 2016.

/S/ SIGNATURE ON FILE

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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.

Effluent Characteristic	Discharge Limitations			Monitoring Requirements	
	Average Monthly	Average Weekly	Maximum Daily	Measurement Frequency	Sample Type
Effluent Flow; mgd	11.5 [1]	---	---	Continuous Recorder [1]	
Effluent Flow; mgd	Report	---	Report	Continuous Recorder [1]	
$CBOD_5$; mg/l (lb/day)	25 (2,400)	40 (3,840)	45 (4,320)	2/Week[2]	24 Hour Composite
TSS; mg/l (lb/day)	30 (2,880)	45 (4,320)	50 (4,800)	2/Week[2]	24 Hour Composite
Total Phosphorus; lb/d (Applicable April 1-October 31)	208 [3]	---	Report	2/Month	24 Hour Composite
pH Range [4]; Standard Units	6.0 to 8.0 (See I.I.5., State Permit Conditions)			Continuous Recorder	
Escherichia coli [5]; 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 [6,7,8]; Percent	Acute $LC_{50} \geq 100\%$			1/Quarter	24 Hour Composite
Hardness [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Alkalinity [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
pH [9]; mg/l	---	---	Report	1/Quarter	Grab
Specific Conductance [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Solids [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Dissolved Solids [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Ammonia Nitrogen [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Organic Carbon [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Residual Chlorine [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Aluminum [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Recoverable Cadmium [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Recoverable Copper [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Recoverable Nickel [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Recoverable Lead [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite
Total Recoverable Zinc [9]; mg/l	---	---	Report	1/Quarter	24 Hour Composite

See pages 5 and 6 for footnotes

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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 [9]; mg/l	---	---	Report	1/Quarter	Grab
Alkalinity [9]; mg/l	---	---	Report	1/Quarter	Grab
pH [9]; mg/l	---	---	Report	1/Quarter	Grab
Specific Conductivity [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Ammonia Nitrogen [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Organic Carbon [9]; mg/l	---	---	Report	1/Quarter	Grab
Ammonia Nitrogen as N [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Aluminum [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Cadmium [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Copper [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Nickel [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Lead [9]; mg/l	---	---	Report	1/Quarter	Grab
Total Recoverable Zinc [9]; 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 $CBOD_5$ 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 31st, June 30th, September 30th, and December 31st. Toxicity test results are to be submitted by the 15th 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 $CBOD_5$ 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 1st** 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.[1]

1 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:

   a. Name and address of contractor(s) responsible for sludge preparation, use or disposal
   b. 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 15th 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 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-A13,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 15th 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

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

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

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

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

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

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

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

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

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

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^{o}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[1]

1.	Test type	Static, non-renewal
2.	Temperature (^{o}C)	20 $\pm$ 1^{o}C or 25 $\pm$ 1^{o}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 Selenastrum to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water[2]	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^{R} 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	$\geq$ 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 of body or appendages 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 must first be used within 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[1]

1.	Test Type	Static, non-renewal
2.	Temperature (^{o}C)	20 $\pm$ 1 ^{o} C or 25 $\pm$ 1^{o}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[2]	Receiving water, other surface water, synthetic water adjusted to the hardness and alkalinity of the receiving water (prepared using either Millipore Milli-Q^{R} 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.

Parameter	Effluent	Receiving Water	ML (mg/l)
Hardness[1]	x	x	0.5
Total Residual Chlorine (TRC)[2, 3]	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:

1. 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)
2. 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
3. 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-Karber
- Trimmed Spearman-Karber
- 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 ration 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 planing 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.

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

NPDES PERMIT # : _____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance : _____

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

*Hardness Dependent (mg/l - CaCO3)

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.			
Column (1) NEW PERMIT Pollutants Limitations (ug/l)		Column (2) OLD PERMIT Pollutants (ug/l)	Limitations

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 Data Analyses Average (mg/kg)	Columns (2A) (2B) Biosolids Criteria From TBLLs New (mg/kg)	(mg/kg)
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.

NPDES PART II STANDARD CONDITIONS
(January, 2007)

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PART II. A. GENERAL REQUIREMENTS

1. 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 is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.

b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements 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. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed $10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed $25,000. Penalties for Class II violations are not to exceed $10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed $125,000.

Note: See 40 CFR §122.41(a)(2) for complete “Duty to Comply” regulations.

2. Permit Actions

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

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator 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 Regional Administrator, upon request, copies of records required to be kept by this permit.

4. Reopener Clause

The Regional Administrator reserves the right to make appropriate revisions to this permit in order to establish any appropriate effluent limitations, schedules of compliance, or other provisions which may be authorized under the CWA in order to bring all discharges into compliance with the CWA.

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Regional Administrator or Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under Section 405 (d) of the CWA. The Regional Administrator or Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or contains a pollutant or practice not limited in the permit.

Federal regulations pertaining to permit modification, revocation and reissuance, and termination are found at 40 CFR §122.62, 122.63, 122.64, and 124.5.

5. 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 responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

The issuance of this permit does not convey any property rights of any sort, nor any exclusive privileges.

7. Confidentiality of Information

a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

b. Claims of confidentiality for the following information will be denied:

(1) The name and address of any permit applicant or permittee;
(2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).

c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

8. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. The permittee shall submit a new application at least 180 days before the expiration date of the existing permit, unless permission for a later date has been granted by the Regional Administrator. (The Regional Administrator shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

9. State Authorities

Nothing in Part 122, 123, or 124 precludes more stringent State regulation of any activity covered by these regulations, whether or not under an approved State program.

10. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, nor does it relieve the permittee of its obligation to comply with any other applicable Federal, State, or local laws and regulations.

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit and with the requirements of storm water pollution prevention plans. 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 only when the operation is necessary to achieve compliance with the conditions of the permit.

2. 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.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

4. Bypass

a. Definitions

(1) *Bypass* means the intentional diversion of waste streams from any portion of a treatment facility.

(2) *Severe property damage* means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can be reasonably expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

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 provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice

(1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
(2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (Twenty-four hour reporting).

d. Prohibition of bypass

Bypass is prohibited, and the Regional Administrator may take enforcement action against a permittee for bypass, unless:

(1) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
(3) i) The permittee submitted notices as required under Paragraph 4.c. of this section.
ii) The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 4.d. of this section.

5. Upset

a. Definition. *Upset* means an exceptional incident in which there is an 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 paragraph B.5.c. of this section are met. No determination made during

administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

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;
(3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
(4) The permittee complied with any remedial measures required under B.3. above.

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

PART II. C. MONITORING REQUIREMENTS

1. Monitoring and Records

a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

b. Except for records for 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 Part 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 except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.

c. Records of monitoring information shall include:

(1) The date, exact place, and time of sampling or measurements;
(2) The individual(s) who performed the sampling or measurements;
(3) The date(s) analyses were performed;
(4) The individual(s) who performed the analyses;
(5) The analytical techniques or methods used; and
(6) The results of such analyses.

d. 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 the permit.

e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by

imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

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

b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

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 CWA, any substances or parameters at any location.

PART II. D. REPORTING REQUIREMENTS

1. Reporting Requirements

a. Planned Changes. The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:

(1) 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
(2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
(3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

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

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator 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 CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.

e. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger 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 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(2) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
(b) Any upset which exceeds any effluent limitation in the permit.
(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)

(3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

f. Compliance Schedules. Reports of compliance or noncompliance with, 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.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.

h. 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 Regional Administrator, it shall promptly submit such facts or information.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under Paragraph A.8. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Regional Administrator. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

Administrator means the Administrator of the United States Environmental Protection Agency, or an authorized representative.

Applicable standards and limitations means all, State, interstate, and Federal standards and limitations to which a “discharge”, a “sewage sludge use or disposal practice”, or a related activity is subject to, including “effluent limitations”, water quality standards, standards of performance, toxic effluent standards or prohibitions, “best management practices”, pretreatment standards, and “standards for sewage sludge use and disposal” under Sections 301, 302, 303, 304, 306, 307, 308, 403, and 405 of the CWA.

Application means the EPA standard national forms for applying for a permit, including any additions, revisions, or modifications to the forms; or forms approved by EPA for use in "approved States", including any approved modifications or revisions.

Average means the arithmetic mean of values taken at the frequency required for each parameter over the specified period. For total and/or fecal coliforms and Escherichia coli, the average shall be the geometric mean.

Average monthly discharge limitation means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.

Average weekly discharge limitation means the highest allowable average of "daily discharges" measured during the calendar week divided by the number of "daily discharges" measured during the week.

Best Management Practices (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "waters of the United States." BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Best Professional Judgment (BPJ) means a case-by-case determination of Best Practicable Treatment (BPT), Best Available Treatment (BAT), or other appropriate technology-based standard based on an evaluation of the available technology to achieve a particular pollutant reduction and other factors set forth in 40 CFR §125.3 (d).

Coal Pile Runoff means the rainfall runoff from or through any coal storage pile.

Composite Sample means a sample consisting of a minimum of eight grab samples of equal volume collected at equal intervals during a 24-hour period (or lesser period as specified in the section on Monitoring and Reporting) and combined proportional to flow, or a sample consisting of the same number of grab samples, or greater, collected proportionally to flow over that same time period.

Construction Activities - The following definitions apply to construction activities:

(a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.

(b) Dedicated portable asphalt plant is a portable asphalt plant located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR Part 443.

(c) Dedicated portable concrete plant is a portable concrete plant located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

(d) Final Stabilization means that all soil disturbing activities at the site have been complete, and that a uniform perennial vegetative cover with a density of 70% of the cover for unpaved areas and areas not covered by permanent structures has been established or equivalent permanent stabilization measures (such as the use of riprap, gabions, or geotextiles) have been employed.

(e) Runoff coefficient means the fraction of total rainfall that will appear at the conveyance as runoff.

Contiguous zone means the entire zone established by the United States under Article 24 of the Convention on the Territorial Sea and the Contiguous Zone.

Continuous discharge means a "discharge" which occurs without interruption throughout the operating hours of the facility except for infrequent shutdowns for maintenance, process changes, or similar activities.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or 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 USC §§1251 et seq.

Daily Discharge means the discharge of a pollutant measured during the calendar day or any other 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurements, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

Director normally means the person authorized to sign NPDES permits by EPA or the State or an authorized representative. Conversely, it also could mean the Regional Administrator or the State Director as the context requires.

Discharge Monitoring Report Form (DMR) means the EPA standard national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees. DMRs must be used by "approved States" as well as by EPA. EPA will supply DMRs to any approved State upon request. The EPA national forms may be modified to substitute the State Agency name, address, logo, and other similar information, as appropriate, in place of EPA's.

Discharge of a pollutant means:

(a) Any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source", or

(b) Any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation (See "Point Source" definition).

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead

to a treatment works; and discharges through pipes, sewers, or other conveyances leading into privately owned treatment works.

This term does not include an addition of pollutants by any "indirect discharger."

Effluent limitation means any restriction imposed by the Regional Administrator on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States", the waters of the "contiguous zone", or the ocean.

Effluent limitation guidelines means a regulation published by the Administrator under Section 304(b) of CWA to adopt or revise "effluent limitations".

EPA means the United States "Environmental Protection Agency".

Flow-weighted composite sample means a composite sample consisting of a mixture of aliquots where the volume of each aliquot is proportional to the flow rate of the discharge.

Grab Sample – An individual sample collected in a period of less than 15 minutes.

Hazardous Substance means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the CWA.

Indirect Discharger means a non-domestic discharger introducing pollutants to a publicly owned treatment works.

Interference means a discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

(a) Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

(b) Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent State or local regulations): Section 405 of the Clean Water Act (CWA), the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resources Conservation and Recovery Act (RCRA), and including State regulations contained in any State sludge management plan prepared pursuant to Subtitle D of the SDWA), the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection Research and Sanctuaries Act.

Landfill means an area of land or an excavation in which wastes are placed for permanent disposal, and which is not a land application unit, surface impoundment, injection well, or waste pile.

Land application unit means an area where wastes are applied onto or incorporated into the soil surface (excluding manure spreading operations) for treatment or disposal.

Large and Medium municipal separate storm sewer system means all municipal separate storm sewers that are either: (i) located in an incorporated place (city) with a population of 100,000 or more as determined by the latest Decennial Census by the Bureau of Census (these cities are listed in Appendices F and 40 CFR Part 122); or (ii) located in the counties with unincorporated urbanized

populations of 100,000 or more, except municipal separate storm sewers that are located in the incorporated places, townships, or towns within such counties (these counties are listed in Appendices H and I of 40 CFR 122); or (iii) owned or operated by a municipality other than those described in Paragraph (i) or (ii) and that are designated by the Regional Administrator as part of the large or medium municipal separate storm sewer system.

Maximum daily discharge limitation means the highest allowable "daily discharge" concentration that occurs only during a normal day (24-hour duration).

Maximum daily discharge limitation (as defined for the Steam Electric Power Plants only) when applied to Total Residual Chlorine (TRC) or Total Residual Oxidant (TRO) is defined as "maximum concentration" or "Instantaneous Maximum Concentration" during the two hours of a chlorination cycle (or fraction thereof) prescribed in the Steam Electric Guidelines, 40 CFR Part 423. These three synonymous terms all mean "a value that shall not be exceeded" during the two-hour chlorination cycle. This interpretation differs from the specified NPDES Permit requirement, 40 CFR § 122.2, where the two terms of "Maximum Daily Discharge" and "Average Daily Discharge" concentrations are specifically limited to the daily (24-hour duration) values.

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribe organization, or a designated and approved management agency under Section 208 of the CWA.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Sections 307, 402, 318, and 405 of the CWA. The term includes an "approved program".

New Discharger means any building, structure, facility, or installation:

(a) From which there is or may be a "discharge of pollutants";

(b) That did not commence the "discharge of pollutants" at a particular "site" prior to August 13, 1979;

(c) Which is not a "new source"; and

(d) Which has never received a finally effective NPDES permit for discharges at that "site".

This definition includes an "indirect discharger" which commences discharging into "waters of the United States" after August 13, 1979. It also includes any existing mobile point source (other than an offshore or coastal oil and gas exploratory drilling rig or a coastal oil and gas exploratory drilling rig or a coastal oil and gas developmental drilling rig) such as a seafood processing rig, seafood processing vessel, or aggregate plant, that begins discharging at a "site" for which it does not have a permit; and any offshore rig or coastal mobile oil and gas exploratory drilling rig or coastal mobile oil and gas developmental drilling rig that commences the discharge of pollutants after August 13, 1979, at a "site" under EPA's permitting jurisdiction for which it is not covered by an individual or general permit and which is located in an area determined by the Regional Administrator in the issuance of a final permit to be in an area of biological concern. In determining whether an area is an area of biological concern, the Regional Administrator shall consider the factors specified in 40 CFR §§125.122 (a) (1) through (10).

An offshore or coastal mobile exploratory drilling rig or coastal mobile developmental drilling rig will be considered a "new discharger" only for the duration of its discharge in an area of biological concern.

New source means any building, structure, facility, or installation from which there is or may be a "discharge of pollutants", the construction of which commenced:

(a) After promulgation of standards of performance under Section 306 of CWA which are applicable to such source, or

(b) After proposal of standards of performance in accordance with Section 306 of CWA which are applicable to such source, but only if the standards are promulgated in accordance with Section 306 within 120 days of their proposal.

NPDES means "National Pollutant Discharge Elimination System".

Owner or operator means the owner or operator of any "facility or activity" subject to regulation under the NPDES programs.

Pass through means a Discharge which exits the POTW into waters of the United States in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation).

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved" State.

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to any pipe ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 CFR §122.2).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. §§2011 et seq.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

(b) Water, gas, or other material which is injected into a well to facilitate production of oil or gas, or water derived in association with oil and gas production and disposed of in a well, if the well is used either to facilitate production or for disposal purposes is approved by the authority of the State in which the well is located, and if the State determines that the injection or disposal will not result in the degradation of ground or surface water resources.

Primary industry category means any industry category listed in the NRDC settlement agreement (Natural Resources Defense Council et al. v. Train, 8 E.R.C. 2120 (D.D.C. 1976), modified 12 E.R.C. 1833 (D. D.C. 1979)); also listed in Appendix A of 40 CFR Part 122.

Privately owned treatment works means any device or system which is (a) used to treat wastes from any facility whose operation is not the operator of the treatment works or (b) not a "POTW".

Process wastewater means any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product.

Publicly Owned Treatment Works (POTW) means any facility or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality".

This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator, EPA, Region I, Boston, Massachusetts.

Secondary Industry Category means any industry which is not a "primary industry category".

Section 313 water priority chemical means a chemical or chemical category which:

(1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);

(2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and

(3) satisfies at least one of the following criteria:

(i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
(ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
(iii) are pollutants for which EPA has published acute or chronic water quality criteria.

Septage means the liquid and solid material pumped from a septic tank, cesspool, or similar domestic sewage treatment system, or a holding tank when the system is cleaned or maintained.

Sewage Sludge means any solid, semisolid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced wastewater treatment, scum, septage, portable toilet pumpings, Type III Marine Sanitation Device pumpings (33 CFR Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

Sewage sludge use or disposal practice means the collection, storage, treatment, transportation, processing, monitoring, use, or disposal of sewage sludge.

Significant materials includes, but is not limited to: raw materials, fuels, materials such as solvents, detergents, and plastic pellets, raw materials used in food processing or production, hazardous substance designated under section 101(14) of CERCLA, any chemical the facility is required to report pursuant to EPCRA Section 313, fertilizers, pesticides, and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

Significant spills includes, but is not limited to, releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR §110.10 and §117.21) or Section 102 of CERCLA (see 40 CFR § 302.4).

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to Section 405(d) of the CWA, and is required to obtain a permit under 40 CFR §122.1(b)(3).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Trust Territory of the Pacific Islands.

Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage.

Storm water discharge associated with industrial activity means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. (See 40 CFR §122.26 (b)(14) for specifics of this definition.

Time-weighted composite means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

Toxic pollutants means any pollutant listed as toxic under Section 307 (a)(1) or, in the case of "sludge use or disposal practices" any pollutant identified in regulations implementing Section 405(d) of the CWA.

Treatment works treating domestic sewage means a POTW or any other sewage sludge or wastewater treatment devices or systems, regardless of ownership (including federal facilities), used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated for the disposal of sewage sludge. This definition does not include septic tanks or similar devices.

For purposes of this definition, "domestic sewage" includes waste and wastewater from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Regional Administrator may designate any person subject to the standards for sewage sludge use and disposal in 40 CFR Part 503 as a "treatment works treating domestic sewage", where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 CFR Part 503.

Waste Pile means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

Waters of the United States means:

(a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;

(b) All interstate waters, including interstate "wetlands";

(c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:

(1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;

(2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

(3) Which are used or could be used for industrial purposes by industries in interstate commerce;

(d) All impoundments of waters otherwise defined as waters of the United States under this definition;

(e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;

(f) The territorial sea; and

(g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR §423.11(m) which also meet the criteria of this definition) are not waters of the United States.

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test. (See Abbreviations Section, following, for additional information.)

2. Definitions for NPDES Permit Sludge Use and Disposal Requirements.

Active sewage sludge unit is a sewage sludge unit that has not closed.

Aerobic Digestion is the biochemical decomposition of organic matter in sewage sludge into carbon dioxide and water by microorganisms in the presence of air.

Agricultural Land is land on which a food crop, a feed crop, or a fiber crop is grown. This includes range land and land used as pasture.

Agronomic rate is the whole sludge application rate (dry weight basis) designed:

(1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and

(2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

Air pollution control device is one or more processes used to treat the exit gas from a sewage sludge incinerator stack.

Anaerobic digestion is the biochemical decomposition of organic matter in sewage sludge into methane gas and carbon dioxide by microorganisms in the absence of air.

Annual pollutant loading rate is the maximum amount of a pollutant that can be applied to a unit area of land during a 365 day period.

Annual whole sludge application rate is the maximum amount of sewage sludge (dry weight basis) that can be applied to a unit area of land during a 365 day period.

Apply sewage sludge or sewage sludge applied to the land means land application of sewage sludge.

Aquifer is a geologic formation, group of geologic formations, or a portion of a geologic formation capable of yielding ground water to wells or springs.

Auxiliary fuel is fuel used to augment the fuel value of sewage sludge. This includes, but is not limited to, natural gas, fuel oil, coal, gas generated during anaerobic digestion of sewage sludge, and municipal solid waste (not to exceed 30 percent of the dry weight of the sewage sludge and auxiliary fuel together). Hazardous wastes are not auxiliary fuel.

Base flood is a flood that has a one percent chance of occurring in any given year (i.e. a flood with a magnitude equaled once in 100 years).

Bulk sewage sludge is sewage sludge that is not sold or given away in a bag or other container for application to the land.

Contaminate an aquifer means to introduce a substance that causes the maximum contaminant level for nitrate in 40 CFR §141.11 to be exceeded in ground water or that causes the existing concentration of nitrate in the ground water to increase when the existing concentration of nitrate in the ground water exceeds the maximum contaminant level for nitrate in 40 CFR §141.11.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 CFR §501.2, required to have an approved pretreatment program under 40 CFR §403.8 (a) (including any POTW located in a state that has elected to assume local program responsibilities pursuant to 40 CFR §403.10 (e) and any treatment works treating domestic sewage, as defined in 40 CFR § 122.2,

classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved state programs, the Regional Administrator in conjunction with the State Director, because of the potential for sewage sludge use or disposal practice to affect public health and the environment adversely.

Control efficiency is the mass of a pollutant in the sewage sludge fed to an incinerator minus the mass of that pollutant in the exit gas from the incinerator stack divided by the mass of the pollutant in the sewage sludge fed to the incinerator.

Cover is soil or other material used to cover sewage sludge placed on an active sewage sludge unit.

Cover crop is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

Cumulative pollutant loading rate is the maximum amount of inorganic pollutant that can be applied to an area of land.

Density of microorganisms is the number of microorganisms per unit mass of total solids (dry weight) in the sewage sludge.

Dispersion factor is the ratio of the increase in the ground level ambient air concentration for a pollutant at or beyond the property line of the site where the sewage sludge incinerator is located to the mass emission rate for the pollutant from the incinerator stack.

Displacement is the relative movement of any two sides of a fault measured in any direction.

Domestic septage is 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 a grease trap at a restaurant.

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

Dry weight basis means calculated on the basis of having been dried at 105 degrees Celsius (°C) until reaching a constant mass (i.e. essentially 100 percent solids content).

Fault is a fracture or zone of fractures in any materials along which strata on one side are displaced with respect to the strata on the other side.

Feed crops are crops produced primarily for consumption by animals.

Fiber crops are crops such as flax and cotton.

Final cover is the last layer of soil or other material placed on a sewage sludge unit at closure.

Fluidized bed incinerator is an enclosed device in which organic matter and inorganic matter in sewage sludge are combusted in a bed of particles suspended in the combustion chamber gas.

Food crops are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

Forest is a tract of land thick with trees and underbrush.

Ground water is water below the land surface in the saturated zone.

Holocene time is the most recent epoch of the Quaternary period, extending from the end of the Pleistocene epoch to the present.

Hourly average is the arithmetic mean of all the measurements taken during an hour. At least two measurements must be taken during the hour.

Incineration is the combustion of organic matter and inorganic matter in sewage sludge by high temperatures in an enclosed device.

Industrial wastewater is wastewater generated in a commercial or industrial process.

Land application is the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the soil so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil.

Land with a high potential for public exposure is land that the public uses frequently. This includes, but is not limited to, a public contact site and reclamation site located in a populated area (e.g., a construction site located in a city).

Land with low potential for public exposure is land that the public uses infrequently. This includes, but is not limited to, agricultural land, forest and a reclamation site located in an unpopulated area (e.g., a strip mine located in a rural area).

Leachate collection system is a system or device installed immediately above a liner that is designed, constructed, maintained, and operated to collect and remove leachate from a sewage sludge unit.

Liner is soil or synthetic material that has a hydraulic conductivity of 1×10^{-7} centimeters per second or less.

Lower explosive limit for methane gas is the lowest percentage of methane gas in air, by volume, that propagates a flame at 25 degrees Celsius and atmospheric pressure.

Monthly average (Incineration) is the arithmetic mean of the hourly averages for the hours a sewage sludge incinerator operates during the month.

Monthly average (Land Application) is the arithmetic mean of all measurements taken during the month.

Municipality means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management agency under section 208 of the CWA, as amended. The definition includes a special district created under state law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201 (e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use or disposal of sewage sludge.

Other container is either an open or closed receptacle. This includes, but is not limited to, a bucket, a box, a carton, and a vehicle or trailer with a load capacity of one metric ton or less.

Pasture is land on which animals feed directly on feed crops such as legumes, grasses, grain stubble, or stover.

Pathogenic organisms are disease-causing organisms. These include, but are not limited to, certain bacteria, protozoa, viruses, and viable helminth ova.

Permitting authority is either EPA or a State with an EPA-approved sludge management program.

Person is an individual, association, partnership, corporation, municipality, State or Federal Agency, or an agent or employee thereof.

Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

pH means the logarithm of the reciprocal of the hydrogen ion concentration; a measure of the acidity or alkalinity of a liquid or solid material.

Place sewage sludge or sewage sludge placed means disposal of sewage sludge on a surface disposal site.

Pollutant (as defined in sludge disposal requirements) is an organic substance, an inorganic substance, a combination or organic and inorganic substances, or pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could on the basis on information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction) or physical deformations in either organisms or offspring of the organisms.

Pollutant limit (for sludge disposal requirements) is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of pollutant that can be applied to a unit of land (e.g., kilograms per hectare); or the volume of the material that can be applied to the land (e.g., gallons per acre).

Public contact site is a land with a high potential for contact by the public. This includes, but is not limited to, public parks, ball fields, cemeteries, plant nurseries, turf farms, and golf courses.

Qualified ground water scientist is an individual with a baccalaureate or post-graduate degree in the natural sciences or engineering who has sufficient training and experience in ground water hydrology and related fields, as may be demonstrated by State registration, professional certification, or completion of accredited university programs, to make sound professional judgments regarding ground water monitoring, pollutant fate and transport, and corrective action.

Range land is open land with indigenous vegetation.

Reclamation site is drastically disturbed land that is reclaimed using sewage sludge. This includes, but is not limited to, strip mines and construction sites.

Risk specific concentration is the allowable increase in the average daily ground level ambient air concentration for a pollutant from the incineration of sewage sludge at or beyond the property line of a site where the sewage sludge incinerator is located.

Runoff is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off the land surface.

Seismic impact zone is an area that has 10 percent or greater probability that the horizontal ground level acceleration to the rock in the area exceeds 0.10 gravity once in 250 years.

Sewage sludge is 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; 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 screening generated during preliminary treatment of domestic sewage in treatment works.

Sewage sludge feed rate is either the average daily amount of sewage sludge fired in all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located for the number of days in a 365 day period that each sewage sludge incinerator operates, or the average daily design capacity for all sewage sludge incinerators within the property line of the site where the sewage sludge incinerators are located.

Sewage sludge incinerator is an enclosed device in which only sewage sludge and auxiliary fuel are fired.

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 CFR §122.2.

Sewage sludge unit boundary is the outermost perimeter of an active sewage sludge unit.

Specific oxygen uptake rate (SOUR) is the mass of oxygen consumed per unit time per unit mass of total solids (dry weight basis) in sewage sludge.

Stack height is the difference between the elevation of the top of a sewage sludge incinerator stack and the elevation of the ground at the base of the stack when the difference is equal to or less than 65 meters. When the difference is greater than 65 meters, stack height is the creditable stack height determined in accordance with 40 CFR §51.100 (ii).

State is one of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and an Indian tribe eligible for treatment as a State pursuant to regulations promulgated under the authority of section 518(e) of the CWA.

Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

Surface disposal site is an area of land that contains one or more active sewage sludge units.

Total hydrocarbons means the organic compounds in the exit gas from a sewage sludge incinerator stack measured using a flame ionization detection instrument referenced to propane.

Total solids are the materials in sewage sludge that remain as residue when the sewage sludge is dried at 103 to 105 degrees Celsius.

Treat or treatment of sewage sludge is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge.

Treatment works is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

Unstable area is land subject to natural or human-induced forces that may damage the structural components of an active sewage sludge unit. This includes, but is not limited to, land on which the soils are subject to mass movement.

Unstabilized solids are organic materials in sewage sludge that have not been treated in either an aerobic or anaerobic treatment process.

Vector attraction is the characteristic of sewage sludge that attracts rodents, flies, mosquitoes, or other organisms capable of transporting infectious agents.

Volatile solids is the amount of the total solids in sewage sludge lost when the sewage sludge is combusted at 550 degrees Celsius in the presence of excess air.

Wet electrostatic precipitator is an air pollution control device that uses both electrical forces and water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

Wet scrubber is an air pollution control device that uses water to remove pollutants in the exit gas from a sewage sludge incinerator stack.

3. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)

TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen
kg/day	Kilograms per day
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
ml/l	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent

Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
ug/l	Microgram(s) per liter
WET	"Whole effluent toxicity" is the total effect of an effluent measured directly with a toxicity test.
C-NOEC	"Chronic (Long-term Exposure Test) – No Observed Effect Concentration". The highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.
A-NOEC	"Acute (Short-term Exposure Test) – No Observed Effect Concentration" (see C-NOEC definition).
LC_{50}	LC_{50} is the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.
ZID	Zone of Initial Dilution means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NEW ENGLAND REGION
ONE CONGRESS STREET
BOSTON, MASSACHUSETTS 02114-2023

FACT SHEET

DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES

NPDES PERMIT NO.: NH0100960

NAME AND MAILING ADDRESS OF APPLICANT:

Winnipesaukee River Basin Program Wastewater Treatment Plant
P.O. Box 68
Franklin, New Hampshire 03235

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Winnipesaukee River Basin Program Wastewater Treatment Plant
528 River Street
Franklin, New Hampshire 03235

The Towns listed below 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).

Town of Belmont
143 Main Street
P.O. Box 310
Belmont, NH 03220

Town of Gilford
Public Works Department
47 Cherry Valley Road
Gilford, NH 03249

Town of Northfield
Northfield Sewer Commission
133 Park Street
Northfield, NH 03276

Town of Center Harbor
Bay District Sewer Commission
P.O. Box 1527
Center Harbor, NH 03226

City of Laconia
Public Works Department
27 Bisson Avenue
Laconia, NH 03246

Town of Tilton
Tilton Sewer Commission
257 Main Street
Tilton, NH 03276

City of Franklin
Dept. of Municipal Services
43 West Bow Street
Franklin, NH 03235

Town of Meredith
50 Waukewan Street
Meredith, NH 03253

RECEIVING WATER: Merrimack River (Hydrologic Unit Code: 01070002)

CLASSIFICATION: B

TABLE OF CONTENTS

I. Proposed Action, Facility Description, and Discharge Location

The above named applicant has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of its NPDES permit to discharge treated effluent into the designated receiving water. The facility is involved in the collection and treatment of municipal, commercial, and industrial wastewaters. Secondary treatment is provided using an activated sludge system and disinfection is provided by ultraviolet light. Backup disinfection is provided by chlorination. The facility has a design flow of 11.5 mgd and discharges the treated wastewater from Outfall 001 to the Merrimack River. A flow diagram of the Winnipesaukee WWTP is shown in Attachment G.

The municipalities listed on page 1 of this fact sheet own and operate portions of the collection system and have therefore been added as co-permittees for portions of the permit relating to unauthorized discharges, operation and maintenance of the sewer system, and alternate power sources.

The previous permit was issued on June 19, 2009 and expired on August 31, 2014. The expired permit ("2009 permit") has been administratively extended because the applicant filed a complete application for permit reissuance pursuant to 40 Code of Federal Regulations (C.F.R.) Section 122.6.

The location of the facility, Outfall 001, and receiving water are shown in Attachment A. The section of the Merrimack River to which the treatment plant discharges is not identified as impaired by New Hampshire's 2012 *Final List of Threatened or Impaired Water That Require a TMDL*.

II. Description of Discharge

A quantitative description of significant effluent parameters based on Discharge Monitoring Reports (DMRs) is shown in Attachment B. The data are from January 2011 through December 2015.

III. Limitations and Conditions

Effluent limitations and monitoring requirements are found in PART I of the draft NPDES permit. The draft permit contains limitations for effluent flow, carbonaceous five-day biochemical oxygen demand ($CBOD_5$), total suspended solids (TSS), total phosphorus, pH, total residual chlorine, *Escherichia coli* bacteria, total recoverable copper, and acute whole effluent toxicity. Additional monitoring requirements are included for parameters associated with WET testing including hardness, ammonia nitrogen as N, and various total recoverable metals (i.e., aluminum, cadmium, copper, lead, nickel, and zinc).

IV. Permit Basis and Explanation of Effluent Limitation Derivation

A. General Regulatory Background

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into waters of the United States from any point source, except as authorized by specified permitting sections of the CWA, one of which is Section 402. See CWA §§ 301(a) and 402(a). Section 402 establishes one of the CWA's principal permitting programs, the National Pollutant Discharge Elimination System (NPDES). Under this section of the CWA, EPA may "issue a permit for the discharge of any pollutant or combination of pollutants" in accordance with certain conditions. See CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. See CWA § 402(a)(1)-(2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: "technology-based" limitations and "water quality-based" limitations. See CWA §§ 301, 303, 304(b); 40 C.F.R. Parts 122, 125, 131. Technology-based limitations, generally developed on an industry-by-industry basis, reflect a specified level of pollutant reducing technology available and economically achievable for the type of facility being permitted. See CWA § 301(b). As a class, POTWs must meet performance based requirements dependent on available wastewater treatment technology. CWA § 301(b)(1)(B). The performance level for POTWs is referred to as "secondary treatment". Secondary treatment is comprised of technology-based requirements expressed in terms of BOD_5, TSS, and pH. 40 C.F.R. Part 133.

Water quality-based effluent limits are designed to ensure that state water quality standards are met regardless of the decision made with respect to technology and economics in establishing technology-based limitations. In particular, Section 301(b)(1)(C) requires achievement of, "any more stringent limitation, including those necessary to meet water quality standards…established pursuant to any State law or regulation…" See 40 C.F.R. §§ 122.4(d), 122.44(d)(1) (providing that a permit must contain effluent limits as necessary to protect State water quality standards, "including State narrative criteria for water quality")(emphasis added) and 122.45(d)(5) (providing in part that a permit incorporate any more stringent limits required by Section 301(b)(1)(C) of the CWA).

The CWA requires that States develop water quality standards for all water bodies within the State. CWA § 303. These standards have three parts: (1) one or more "designated uses" for each water body or water body segment in the state; (2) water quality "criteria" consisting of numerical concentration levels and/or narrative statements specifying the amounts of various pollutants that may be present in each water body without impairing the designated uses of that water body; and (3) an antidegradation provision, focused on protecting high quality waters and protecting and maintaining water quality necessary to protect existing uses. CWA § 303(c)(2)(a); 40 C.F.R. § 131.12. The limits and

conditions of the permit reflect the goal of the CWA and EPA to achieve and then to maintain water quality standards.

The applicable New Hampshire water quality standards can be found in Surface Water Quality Regulations, Chapter Env-Wq 1700 et seq. See generally, Title 50, Water Management and Protection, Chapter 485A, Water Pollution and Waste Disposal Section 485-A. Hereinafter, New Hampshire's Surface Water Quality Regulations are referred to as the NH standards.

Receiving stream requirements are established according to numerical and narrative standards adopted under state law for each stream classification. When using chemical-specific numeric criteria from a State's water quality standards to develop permit limits, both the acute and chronic aquatic life criteria are used and expressed in terms of maximum allowable in-stream pollutant concentrations. Acute aquatic life criteria are generally implemented through maximum daily limits and chronic aquatic life criteria are generally implemented through average monthly limits. When a State has not established a numeric water quality criterion for a specific pollutant that is present in the effluent in a concentration that causes or has a reasonable potential to cause a violation of narrative water quality standards, the permitting authority must establish effluent limits in one of three ways: based on a "calculated numeric criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and fully protect the designated use"; on a "case-by-case basis" using CWA § 304(a) recommended water quality criteria, supplemented as necessary by other relevant information; or in certain circumstances, based on an "indicator parameter". 40 C.F.R. § 122.44(d)(1)(vi)(A-C).

All statutory deadlines for meeting various treatment technology-based effluent limitations established pursuant to the CWA have expired. When technology-based effluent limits are included in a permit, compliance with those limitations is from the date the issued permit becomes effective. See 40 C.F.R. § 125.3(a)(1). Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA cannot be authorized by an NPDES permit. The regulations governing EPA's NPDES permit program are generally found in 40 C.F.R. Parts 122, 124, and 136.

B. Introduction

The permit must limit any pollutant or pollutant parameter (conventional, non-conventional, toxic, and whole effluent toxicity) that is or may be discharged at a level that causes or has "reasonable potential" to cause or contribute to an excursion above any water quality standard, including narrative water quality criteria. See 40 C.F.R. 122.44(d)(1). An excursion occurs if the projected or actual in-stream concentration exceeds the applicable criterion.

1. Reasonable Potential

In determining reasonable potential, EPA considers: (1) existing controls on point and

non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from permit applications, monthly discharge monitoring reports, and State and Federal water quality reports; (3) sensitivity of the species to toxicity testing; (4) statistical approaches outlined in *Technical Support Document for Water Quality-based Toxics Controls*, March 1991, EPA/505/2-90-001 in Section 3; and where appropriate, (5) dilution of the effluent in the receiving water. In accordance with New Hampshire Standards (RSA 485-A:8VI, Env-Wq 1705.02), available dilution for rivers and streams is based on a known or estimated value of the lowest average flow which occurs for seven (7) consecutive days with a recurrence interval of once in ten (10) years (7Q10) for aquatic life and human health criteria for non-carcinogens, or the long-term harmonic mean flow for human health (carcinogens only) in the receiving water at the point just upstream of the outfall. Furthermore, 10 percent of the receiving water's assimilative capacity is held in reserve for future needs in accordance with New Hampshire's Surface Water Quality Regulations Env-Wq 1705.01.

2. Anti-backsliding

Section 402(o) of the CWA generally provides that the effluent limitations of a renewed, reissued, or modified permit must be at least as stringent as the comparable effluent limitations in the previous permit. Unless certain limited exceptions are met, "backsliding" from effluent limitations contained in previously issued permits is prohibited. EPA has also promulgated anti-backsliding regulations which are found at 40 C.F.R. § 122.44(l). Unless applicable anti-backsliding requirements are met, the limits and conditions in the reissued permit must be at least as stringent as those in the previous permit.

3. State Certification

Section 401(a)(1) of the CWA requires all NPDES permit applicants to obtain a certification from the appropriate state agency stating that the permit will comply with all applicable federal effluent limitation and state water quality standards. See CWA § 401(a)(1). The regulatory provisions pertaining to state certification provide that EPA may not issue a permit until a certification is granted or waived by the state in which the discharge originates. 40 C.F.R. § 124.53(a). The regulations further provide that, "when certification is required…no final permit shall be issued…unless the final permit incorporated the requirements specified in the certification under § 124.53(e)." 40 C.F.R. § 124.55(a)(2). Section 124.53(e) in turn provides that the State certification shall include "any conditions more stringent than those in the draft permit which the State finds necessary" to assure compliance with, among other things, State water quality standards, see 40 C.F.R. 124.53(e)(2), and shall also include "[a] statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of State law, including water quality standards," see 40 C.F.R. 124.53(e)(3).

However, when EPA reasonably believes that a State water quality standard requires a more stringent permit limitation than that reflected in a state certification, it has an

independent duty under CWA §301(b)(1)(C) to include more stringent permit limitations. See 40 C.F.R. §§ 122.44(d)(1) and (5). It should be noted that under CWA § 401, EPA's duty to defer to considerations of State law is intended to prevent EPA from relaxing any requirements, limitations, or conditions imposed by State law. Therefore, "[a] State may not condition or deny a certification on the grounds that State law allows a less stringent permit condition." 40 C.F.R. § 124.55(c). In such an instance, the regulations provide that, "The Regional Administrator shall disregard any such certification conditions or denials as waivers of certification." Id. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 C.F.R. § 122.4(d) and 40 C.F.R. § 122.44(d).

4. Receiving Water Description

The Merrimack River, in the vicinity of the Winnipesaukee WWTP discharge, is designated as Class B. Section 303(d) of the CWA requires States to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such, require the development of total maximum daily loads. The section of the Merrimack River to which the treatment plant discharges is identified by New Hampshire's 2012 *Final List of Threatened or Impaired Water That Require a TMDL* as assessment unit NHRIV700060101-14. At present, this stretch of the river is meeting the standards of its water quality classification. However, approximately 14.8 miles downstream, assessment unit NHRIV700060302-24 of the Merrimack River located in Concord is not meeting water quality standards for aquatic life. Parameters causing the impairments to aquatic life include aluminum, dissolved oxygen saturation, and pH. Because of these impairments a TMDL is scheduled for this section of the river; however, it is not expected until 2017.

C. Effluent Flow

Sewage treatment plant discharge is encompassed within the definition of "pollutant" and is subject to regulation under the CWA. The CWA defines "pollutant" to mean, *inter alia*, "municipal . . . waste" and "sewage…discharged into water." 33 U.S.C. § 1362(6).

EPA may use design flow of effluent both to determine the necessity for effluent limitations in the permit that comply with the Act, and to calculate the limits themselves. EPA practice is to use design flow as a reasonable and important worst-case condition in EPA's reasonable potential and water quality-based effluent limitations (WQBEL) calculations to ensure compliance with water quality standards under Section 301(b)(1)(C). Should the effluent discharge flow exceed the flow assumed in these calculations, the instream dilution would decrease and the calculated effluent limits may not be protective of WQS. Further, pollutants that do not have the reasonable potential to exceed WQS at the lower discharge flow may have reasonable potential at a higher flow due to the decreased dilution. In order to ensure that the assumptions underlying the Region's reasonable potential analyses and derivation of permit effluent limitations remain sound for the duration of the permit, the Region may ensure its "worst-case" effluent wastewater flow assumption through imposition of permit conditions for effluent

flow. Thus, the effluent flow limit is a component of WQBELs because the WQBELs are premised on a maximum level of flow. In addition, the flow limit is necessary to ensure that other pollutants remain at levels that do not have a reasonable potential to exceed WQS.

Using a facility's design flow in the derivation of pollutant effluent limitations, including conditions to limit wastewater effluent flow, is consistent with, and anticipated by NPDES permit regulations. Regarding the calculation of effluent limitations for POTWs, 40 C.F.R. § 122.45(b)(1) provides, "permit effluent limitations…shall be calculated based on design flow." POTW permit applications are required to include the design flow of the treatment facility. *Id.* § 122.21(j)(1)(vi).

Similarly, EPA's reasonable potential regulations require EPA to consider "where appropriate, the dilution of the effluent in the receiving water," 40 C.F.R. § 122.44(d)(1)(ii), which is a function of *both* the wastewater effluent flow and receiving water flow. EPA guidance directs that this "reasonable potential" analysis be based on "worst-case" conditions. EPA accordingly is authorized to carry out its reasonable potential calculations by presuming that a plant is operating at its design flow when assessing reasonable potential.

The limitation on sewage effluent flow is within EPA's authority to condition a permit in order to carry out the objectives of the Act. *See* CWA §§ Sections 402(a)(2) and 301(b)(1)(C); 40 C.F.R. §§ 122.4(a) and (d); 122.43 and 122.44(d). A condition on the discharge designed to protect EPA's WQBEL and reasonable potential calculations is encompassed by the references to "condition" and "limitations" in 402 and 301 and implementing regulations, as they are designed to assure compliance with applicable water quality regulations, including antidegradation. Regulating the quantity of pollutants in the discharge through a restriction on the quantity of wastewater effluent is consistent with the overall structure and purposes of the CWA.

In addition, as provided in Part II.B.1 of this permit and 40 C.F.R. § 122.41(e), the permittee is required to properly operate and maintain all facilities and systems of treatment and control. Operating the facilities wastewater treatment systems as designed includes operating within the facility's design effluent flow. Thus, the permit's effluent flow limitation is necessary to ensure proper facility operation, which in turn is a requirement applicable to all NPDES permits. *See* 40 C.F.R. § 122.41.

EPA has also included the effluent flow limit in the permit to minimize or prevent infiltration and inflow (I/I) that may result in unauthorized discharges and compromise proper operation and maintenance of the facility. Improper operation and maintenance may result in non-compliance with permit effluent limitations. Infiltration is groundwater that enters the collection system though physical defects such as cracked pipes or deteriorated joints. Inflow is extraneous flow added to the collection system that enters the collection system through point sources such as roof leaders, yard and area drains, sump pumps, manhole covers, tide gates, and cross connections from storm water systems. Significant I/I in a collection system may displace sanitary flow, reducing the

capacity available for treatment and the operating efficiency of the treatment works and to properly operate and maintain the treatment works.

Furthermore, the extraneous flow due to significant I/I greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems. Consequently, the effluent flow limit is a permit condition that relates to the permittee's duty to mitigate (*i.e.*, minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment) and to properly operate and maintain the treatment works. *See* 40 C.F.R. §§ 122.41(d) and (e).

The Winnipesaukee River Basin Program Wastewater Treatment Plant (WWTP) has a design flow of 11.5 mgd. This flow rate was used to calculate available dilution as discussed below. If the effluent flow rate exceeds 80 percent of the 11.5 mgd design flow (9.2 mgd) for a period of three (3) consecutive months then the permittee must notify EPA and the NHDES-WD and implement a program to maintain satisfactory treatment levels.

During the review period, the average monthly discharge from the treatment facility was approximately 5.7 mgd and the maximum monthly average was 10.4 mgd (see Attachment B).

D. Conventional Pollutants

1. $CBOD_5$ and TSS

The average monthly and average weekly concentration-based limits for $CBOD_5$ and TSS are based on requirements under Section 301(b)(1)(B) of the CWA as defined for Secondary Treatment Standards in 40 CFR Section 133.102(a) and (b). The average monthly and average weekly mass-based limits for $CBOD_5$ and TSS corresponding to the respective concentration-based limits in the draft permit are based on 40 CFR Section 122.45(f) which requires the Agency to apply these Secondary Treatment Standards (concentration-based) as mass-based limits. The monitoring frequency for both $CBOD_5$ and TSS is two (2) times per week.

Average monthly, average weekly and maximum daily allowable mass-based (load) limitations for $CBOD_5$ and TSS shown in the draft permit are based on the POTW's design flow of 11.5 mgd and the appropriate constituent concentration for the respective time period being limited. See Attachment C for the equation used to calculate each of these mass-based limits.

The percent removal limits for $CBOD_5$ and TSS are based on the requirements of 40 CFR Section 133.102 (a) (3) and (b)(3), respectively.

These limits are the same as in the 2009 permit. During the review period, the permittee had only 1 month (August 2015) with violations of both the CBOD5 and TSS limits (See Attachment B).

2. pH

The limit for pH in the 2009 permit was based upon State Certification Requirements and RSA 485-A:8, which states that "The pH range for said (Class B) waters shall be 6.5 to 8.0 except when due to natural causes." During the review period, the permittee did not have any violations of the pH limits (See Attachment B).

The 2009 permit also included a provision allowing a relaxation of the pH limits if the permittee performs an in-stream dilution study that demonstrates that the in-stream standards for pH would be protected. Accordingly, the permittee submitted a pH demonstration study to NHDES on February 19, 2014 requesting limits of 6.0 to 8.0 standard units (s.u.). Subsequently, NHDES approved the permittee's request to relax the effluent pH limits and notified EPA with a letter dated February 21, 2014. Therefore, the pH limits in the draft permit are 6.0 to 8.0 S.U.

3. Escherichia coli

The Outfall 001 average monthly and maximum daily limitations for *Escherichia coli* bacteria of 126 and 406 colony forming units per 100 ml, respectively, are in accordance with Class B water quality standards established by the State of New Hampshire in RSA 485-A:8.II and the anti-backsliding requirements mentioned above.

The average monthly and maximum daily limitations for *Escherichia coli* bacteria (*E. coli*) are based on requirements in the State's Statutes (N.H. RSA 485-A:8) for non-designated beach area, and Env-Wq 1703.06 (b), which requires that bacteria criteria shall be applied at the end of a wastewater treatment facility's discharge pipe. The average monthly discharge of *E. coli* is determined by calculating the geometric mean. Effluent limitations for *E. coli* in the draft permit are the same as the limits in the 2009 permit and, therefore, are in accordance with antibacksliding requirements found in 40 CFR §122.44(1).

During the review period, the facility had 4 daily maximum violations and 2 monthly average violation of its *E. coli* permit limits (See Attachment B).

The compliance monitoring frequency for Outfall 001 for *E. coli* in the draft permit is 3/week. Samples for *E. coli* compliance monitoring must be taken concurrently with samples for total residual chlorine (when chlorine is in use).

E. Non-Conventional and Toxic Pollutants

Water quality based effluent limits for specific toxic pollutants were determined from numeric chemical specific criteria adopted by New Hampshire (refer to Env-Wq 1700) and approved by EPA. EPA used these pollutant specific criteria along with available dilution in the receiving water to determine a pollutant specific draft permit limit.

It should be noted that during 2016 the State of New Hampshire is in the process of revising certain State's water quality standards found at Env-Wq 1700 (Surface Water Quality Standards), including some criteria used in this draft permit. A public hearing was held on June 21st and the comment period expires on July 22, 2016. If the revisions to these standards is finalized and approved by EPA before the final issuance of the final permit, then EPA anticipates that the applicable State of New Hampshire's revised water quality standards found in Env-Wq 1700 shall be incorporated into the final permit. EPA invites comments pertaining to this issue.

1. 7Q10 Flow and Available Dilution

The available dilution of the receiving water is determined by using the facility's design flow of 11.5 mgd and the annual 7-day mean low flow at the 10 year recurrence interval (7Q10) in the receiving water just above the treatment plant's outfall. The available dilution is reduced by 10 percent to account for the State's assimilative capacity reserve rule pursuant to NH Surface Water Quality Regulations Env-Wq 1705.01.

The 2009 permit used a dilution factor of 24.2. This was based upon the treatment plant design flow of 11.5 mgd (17.8 cfs) and a 7Q10 at the Franklin Junction Gage of 477.83 cfs plus 0.34 cfs from the intervening area between the gage and the treatment plant (total 7Q10 flow equaling 478.17 cfs). The dilution factor has been revised to 25.8 based on a recalculation of the 7Q10 at the Franklin Junction Gage (492 cfs) for a period of record 1943 to 2014. The new total upstream 7Q10 flow is 492.34 cfs. The revised dilution factor based on this revised upstream 7Q10 is 25.8. The revised dilution factor has been used to calculate water quality based limits for the current draft permit. The calculation of the dilution factor can be found in Attachment D.

2. Total Chlorine Residual

The New Hampshire water quality standards specify the chronic and acute aquatic-life criterion for chlorine as 0.011 mg/l and 0.019 mg/l, respectively, for freshwater; and 0.0075 mg/l and 0.013 mg/l, respectively, for marine water. The total residual chlorine (TRC) limits in the 2009 permit, based on available dilution, were a monthly average limit of 0.27 mg/l (0.011 mg/l * 24.2) and a daily maximum limit of 0.46 mg/l (0.019 mg/l * 24.2). Although ultraviolet light as used most of the time for disinfection, the permittee maintained consistent compliance with these limits when chlorine was used. See Attachment B.

Based upon the revised available dilution presented above, applicable TRC limits were recalculated to be a monthly average limit of 0.28 mg/l (0.011 mg/l * 25.8) and a daily maximum limit of 0.49 mg/l (0.019 mg/l * 25.8). However, based on anti-backsliding regulations found at 40 CFR 122.44(l)(2) the more stringent limitations in the 2009 permit are carried forward in the draft permit.

3. Ammonia Nitrogen as N

The 2009 permit requires quarterly monitoring for ammonia nitrogen as N and reporting the daily maximum value as part of the toxicity testing requirements. As shown in Attachment B, the range of ammonia nitrogen as N was 8.5 to 30.1 mg/l during the review period. Also shown in Attachment B, the median background ammonia concentration was 0 mg/l with only a single detected value (0.2 mg/l in Q1 of 2011). Therefore, the background concentration was considered to be negligible. See Attachment E for reasonable potential calculations. Given the high dilution factor, the ammonia levels in the effluent are below the acute and chronic thresholds that would necessitate a permit limit. Therefore, no limit is necessary for ammonia nitrogen as N but monitoring will continue to be required as part of the toxicity tests described below.

4. Metals

The 2009 permit does not contain any metals limits but requires quarterly monitoring of total recoverable aluminum, chromium, cadmium, copper, nickel, lead, and zinc as part of the whole effluent toxicity testing requirements. Additionally, the 2009 permit requires quarterly arsenic monitoring.

Dissolved fractions of certain metals in water can be toxic to aquatic life. Therefore, there is a need to limit toxic metal concentrations in the effluent where aquatic life may be impacted. An evaluation of the concentration of metals in the facility's effluent was used to determine reasonable potential for effluent discharges to cause exceedances of the water quality criteria for aluminum, cadmium, copper, lead, nickel and zinc. Sampling data within the draft permit review period was taken from Whole Effluent Toxicity test reports for this analysis.

Metals may be present in both dissolved and particulate forms in the water column with extensive studies suggesting that it is the dissolved fraction that is biologically available and therefore presents the greatest risk of toxicity to aquatic life inhabiting the water column. This conclusion is widely accepted by the scientific community both within and outside of EPA, and as a result, water quality criteria are established in terms of dissolved metals. *See* Water Quality Standards Handbook: Second Edition, Chapter 3.6 and Appendix J, EPA 1994 [EPA 823-B-94-05a], updated March 2012 [EPA 823-B-12-002], at http://water.epa.gov/scitech/swguidance/standards/handbook/chapter03.cfm

However, many inorganic components of wastewater, including metals, are in the particulate form, and differences in the chemical composition between the effluent and the receiving water affects the partitioning of metals. As the effluent mixes with the receiving water the partitioning between the particulate and dissolved fractions, often results in a transition from the particulate to dissolved form. *See The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion*, EPA 1996 (EPA-823-B96-007). Consequently, quantifying only the dissolved fraction of metals in the effluent prior to discharge may not accurately reflect the biologically available portion of metals in the receiving water. Regulations at 40 CFR 122.45(c)

require, with limited exceptions, that metals limits in NPDES permits be expressed as total recoverable metals.

Although the water quality criteria for most metals is presented as either dissolved or total recoverable, in a letter from NHDES to EPA (dated July 1, 2014), NHDES stated that the aluminum criteria presented in the New Hampshire water quality regulations (Env-Wq-1700) should be applied in terms of acid-soluble aluminum. The letter goes on to say

> *New Hampshire's aluminum criteria are based on EPA's 1988 ambient water quality criteria document for aluminum[1]. According to this document, acid-soluble aluminum is operationally defined as "[a]luminum that passes through a 0.45 um membrane filter after the sample has been acidified to a pH at between 1.5 and 2.0 with nitric acid" [2]. For the many reasons listed in the "Implementation" section of the EPA document, acid-soluble aluminum is considered a better measurement of the forms that are toxic to aquatic life or that can be readily converted to toxic forms under natural conditions.*

To express these criteria in terms of total recoverable aluminum, the fraction of acid-soluble to total recoverable aluminum in the receiving water must be determined. Any permittee requesting a limit based on the acid-soluble aluminum fraction must provide documentation of the instream ratio of acid soluble aluminum to total recoverable aluminum. EPA and NHDES are available to provide guidance concerning the information that would be needed to perform this study. Since no information is currently available regarding the ratio of acid soluble to total recoverable aluminum in the receiving water, EPA assumes that the ratio is 1.

Reasonable Potential Analysis:

For metals with hardness-based water quality criteria, the criteria are determined using the equations in NH standards Env-Wq 1703.24, using the appropriate factors for the individual metals. The downstream hardness was calculated to be 15.0 mg/l as $CaCO_3$, using a mass balance equation with the design flow (17.8 cfs), upstream receiving water 7Q10 (492.34 cfs), an upstream median hardness (11 mg/l as $CaCO_3$) and an effluent median hardness (125 mg/l as $CaCO_3$). Since this downstream hardness is below 25 mg/l (15.0 mg/l), a default value of 25 mg/l is used to determine the total recoverable metals criteria. *See* Env-Wq 1703.22(f). The following table presents dissolved criteria for each metal taken from Env-Wq 1703.1. The conversion factors to obtain total recoverable criteria are found in Env-Wq 1703.21.

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[1] Ambient Water Quality Criteria for Aluminum - 1988. United Stated Environmental Protection Agency. EPA 440/5-86-008. August 1988.

[2] DES protocols require the sample to be acidified to this low pH and allowed to stand for l6 hours before analysis.

	Dissolved Criteria (ug/l)		Conversion Factor		Total Recoverable Criteria (ug/l)	
	Acute	**Chronic**	**Acute**	**Chronic**	**Acute**	**Chronic**
Aluminum	750	87	NA	NA	750	87
Cadmium	0.95	0.8	1.136672 – [(Ln Hardness)(0.041838)]	1.101672 – [(Ln Hardness)(0.041838)]	0.95	0.83
Copper	3.6	2.7	0.96	0.96	3.75	2.81
Lead	14	0.54	1.46203 – [(Ln Hardness)(0.145712)]	1.46203 – [(Ln Hardness)(0.145712)]	14.10	0.54
Nickel	144.9	16.1	0.998	0.997	145.19	16.15
Zinc	36.2	36.5	0.978	0.986	37.01	37.02

In order to determine whether the effluent has the reasonable potential to cause or contribute to an exceedance above the in-stream water quality criteria for each metal, the following mass balance is used to project in-stream metal concentrations downstream from the discharge.

$$Q_d C_d + Q_S C_S = Q_r C_r$$

rewritten as:

$$C_r = \frac{Q_d C_d + Q_S C_S}{Q_r}$$

where:

Q_d = effluent flow (design flow = 11.5 mgd = 17.8 cfs)
C_d = effluent metals concentration in ug/L (95th percentile[3])
Q_S = stream flow upstream (upstream 7Q10)
C_S = median upstream metals concentration in ug/L
Q_r = stream flow downstream, after discharge ($Q_S + Q_d$)
C_r = downstream pollutant concentration in ug/L

Reasonable potential is then determined by comparing this resultant in-stream concentration (for both acute and chronic conditions) with the criteria for each metal multiplied by the factor 0.9 to reserve 10% assimilative capacity (*See* Env-Wq 1705.01). If both the downstream concentration (C_r) and the effluent concentration (C_d) exceed the relevant criterion times 0.9, there is reasonable potential for the facility to cause or contribute to an exceedance of that water quality standard and a permit limit is required. If there is reasonable potential (for either acute or chronic conditions), the appropriate limit is then calculated by rearranging the above mass balance to solve for the effluent concentration (C_d) using the criterion times 0.9 as the resultant in-stream concentration (C_r). Note that if a limit is calculated to be lower than the criterion times 0.9, then the limit is set at the criterion. See the table below for the results of this analysis with respect to aluminum, cadmium, copper, lead, nickel and zinc.

[3] Note that for sample sizes less than 10, the maximum reported effluent value is used for C_d. For sample sizes of 10 or greater, the 95th percentile of the effluent is calculated and used for C_d. *See* Attachment F for details of this statistical approach.

Metal	Q*d*	C*d* [1] (95th Percentile)	Q*s*	C*s* [2] (Median)	Q*r*	C*r* = (Q*d*C*d*+Q*s*C*s*)/Q*r*	Criteria * 0.9		Acute Reasonable Potential	Chronic Reasonable Potential	Limits	
	cfs	ug/l	cfs	ug/l	cfs	ug/l	Acute (ug/l)	Chronic (ug/l)	C*d* & C*r* > Criteria	C*d* & C*r* > Criteria	Acute (ug/l)	Chronic (ug/l)
Aluminum	17.8	72.7	492.34	110	510.1	108.7	675	78.3	N	N	N/A	N/A
Cadmium		0		0		0.00	0.86	0.75	N	N	N/A	N/A
Copper		21.2		1		1.70	3.38	2.53	N	N	N/A	N/A
Lead		1.6		0		0.06	12.69	0.49	N	N	N/A	N/A
Nickel		2.5		0		0.09	130.67	14.54	N	N	N/A	N/A
Zinc		62.3		4		6.0	33.31	33.32	N	N	N/A	N/A

[1] Values represent the 95th percentile concentration from the WET testing within the review period (see Attachment F).

[2] Median upstream data taken from the WET testing results for the receiving water just upstream of the facility's discharge (see Attachment B).

As indicated in the table above, based on the maximum measured effluent concentrations and median upstream concentrations there is no reasonable potential (for either acute or chronic conditions) that the discharge of aluminum, cadmium, copper, nickel, lead or zinc will cause or contribute to an exceedance of the applicable water quality criteria. Monitoring and reporting for all metals will continue to be required as part of the WET tests.

Additionally, arsenic was monitored quarterly based on the 2009 permit. As shown in Attachment B, the effluent arsenic concentration ranged from 0 to 2.1 ug/l. The 95th percentile of the 20 quarterly samples is 2.0 ug/l (see Attachments B and F). As indicated in the NH WQS at Table 1703.1 and footnote at Env-Wq 1703.22(b), the arsenic criterion for water & fish ingestion of 18 ng/l refers to the inorganic form only. Because the monitoring data is for total arsenic and the criterion is for inorganic arsenic, EPA requested that the permittee collect effluent samples of both total arsenic and total inorganic arsenic in order to determine what fraction of the effluent is toxic (inorganic). The results of this monitoring are presented in the table below.

Sample Date	Total Inorganic Arsenic	Total Arsenic	% Inorganic
	ug/l	ug/l	
4/19/2016	0.299	0.81	37%
4/20/2016	0.319	0.85	38%
4/21/2016	0.335	0.77	44%
4/22/2016	0.324	0.88	37%
4/25/2016	0.286	0.77	37%

Although this data is somewhat limited, it provides a consistent approximation of the inorganic fraction in the effluent. The average of the 5 inorganic fractions is 38.4%. Therefore, the 95th percentile calculated above (2.0 ug/l) is multiplied by 0.384 to determine what concentration is inorganic. The resulting inorganic arsenic concentration is 0.77 ug/l (2.0 ug/l * 0.384). This inorganic concentration is used below to determine if the effluent has reasonable potential to cause or contribute to a water quality violation.

To determine whether the effluent data support the need for an effluent limitation, EPA reviewed the effluent data and calculated a downstream inorganic arsenic concentration for comparison with the water quality criterion. Please note that because the human health criterion for arsenic is based on carcinogenic effects, the calculations below are based on the upstream harmonic mean stream flow of 1574 cfs (see Attachment D), rather than the 7Q10 flow (see Env-Wq 1705.02(d)).

Metal	**Q*d***	**C*d*** **(95th Percentile)**	**Q*s*** **(Harmonic Mean)**	**C*s*** **(Median)**	**Q*r***	**C*r* = (Q*d*C*d*+Q*s*C*s*)/Q*r***	**Human Health Criterion * 0.9**	**Reasonable Potential**
	cfs	**ug/l**	**cfs**	**ug/l**	**cfs**	**ug/l**	**ug/l**	**C*d* & C*r* > Criterion**
Arsenic	17.8	0.77	1574	0	1591.8	0.009	0.016	N

As indicated in the table above, based on the 95th percentile of the inorganic portion of arsenic in the effluent and the median upstream concentration there is not reasonable potential for arsenic to cause or contribute to a water quality violation in the receiving water. Therefore, an arsenic limit is not included in the draft permit and the monitoring requirement has been removed.

5. Phosphorus

Phosphorus and other nutrients (i.e. nitrogen) can promote the growth of nuisance algae and rooted aquatic plants. Typically, elevated levels of nutrients will cause excessive algal and/or plant growth resulting in reduced water clarity and poor aesthetic quality. Through respiration, and the decomposition of dead plant matter, excessive algae and plant growth can reduce in-stream dissolved oxygen concentrations to levels that could negatively impact aquatic life and/or produce strong unpleasant odors.

EPA has produced several guidance documents which contain recommended total phosphorus criteria for receiving waters. The 1986 Quality Criteria for Water (Gold Book) recommends in-stream phosphorus concentrations of 0.05 mg/l in any stream entering a lake or reservoir, 0.1 mg/l for any stream not discharging directly to a lake or impoundment, and 0.025 mg/l within a lake or reservoir.

In December 2000, EPA released "Ecoregional Nutrient Criteria" (USEPA 2000), which was established as part of an effort to reduce problems associated with excess nutrients in water bodies located within specific areas of the country. The published criteria represent conditions in waters within each specific ecoregion which are minimally impacted by human activities, and thus are representative of waters without cultural eutrophication. The Winnipesaukee River Basin Program Wastewater Treatment Plant is within Ecoregion VIII, *Nutrient Poor, Largely Glaciated Upper Midwest and Northeast*. Recommended criteria for this ecoregion include a total phosphorus concentration of 10 ug/l (0.01 mg/l) and a chlorophyll *a* concentration of 0.63 ug/l (0.00063 mg/l). These recommended criteria are found in *Ambient Water Quality Criteria Recommendations, Information Supporting the Development of State and Tribal Nutrient Criteria, Rivers and Streams in Ecoregion VIII* (USEPA 2001).

More recently, Mitchell, Liebman, Ramseyer, and Card (in draft 2004), in conjunction with the New England States, developed potential nutrient criteria for rivers and streams in New England. Using several river examples representative of typical conditions in New England streams and rivers, they investigated several approaches for the development of river and stream nutrient criteria that would be dually protective of designated uses in both upstream and downstream impoundments. Based on this investigation an instream total phosphorus concentration of 0.020 – 0.022 mg/l was identified as protective of designated used for New England rivers and streams. The development of the New England-wide total phosphorus concentration was based on more recent data that the National Ecoregional nutrient criteria, and has been subject to quality assurance measures. Additionally, the development of the New England-wide concentration included reference conditions for waters presumed to be protective of designated uses.

The New Hampshire Surface Water Quality Regulations contain a narrative criterion which states that phosphorus contained in effluent shall not impair a water body's designated use. Specifically, Env-Wq 1703.14(b) states that, "Class B waters shall contain no phosphorus or nitrogen in such concentrations that would impair any existing or designated uses, unless naturally occurring." Env-Wq 1703.14(c), further states that, "Existing discharges containing either phosphorus or nitrogen which encourage cultural eutrophication shall be treated to remove phosphorus or nitrogen to ensure attainment and maintenance of water quality standards." Cultural eutrophication is defined in Env-Wq 1702.15 as, "… the human-induced addition of wastes containing nutrients which results in excessive plant growth and/or decrease in dissolved oxygen." Although numeric nutrient criteria have not yet been developed in New Hampshire, a total phosphorus concentration of 0.05 mg/l is considered by NHDES as a level of potential concern (NHVRAP & NHDES Piscataquog Report, April 2008).

EPA has decided to use the Gold Book criterion (0.100 mg/l) rather than the more stringent ecoregional criteria, given that it was developed from an effects-based approach versus the ecoregional criteria that were developed on the basis of reference conditions. The effects-based approach is taken because it is more directly associated with an impairment to a designated use

(i.e., fishing, swimming). The effects-based approach provides a threshold value above which adverse effects (i.e., water quality impairments) are likely to occur. It applies empirical observations of a causal variable (i.e., phosphorus) and a response variable (i.e., chlorophyll *a*) associated with designated use impairments. Reference-based values are statistically derived from a comparison within a population of rivers in the same ecoregional class. They are a quantitative set of river characteristics (physical, chemical, and biological) that represent minimally impacted conditions.

EPA's regulation at 40 CFR 122.44(d)(1) establishes the basis for determining if there is an excursion of numeric or narrative water quality criteria. Section (ii) of that regulation states: *"When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water*."

The Winnipesaukee WWTP has been reporting monthly average total phosphorus (TP) concentration based on its 2009 permit. During the review period (November 2010 through October 2015) the facility reported 60 TP measurements, ranging from 0.33 mg/l to 5.0 mg/l. During the months of April through October, the reported data had a 95th percentile of 5.63 mg/l.

In addition, the most recent 'Upper Merrimack and Pemigewasset River Study Field Program' (MPR-Study) that was conducted between 2009 and 2012 and funded by the U.S. Army Corps of Engineers (USACOE) as well as several municipalities contains instream phosphorus data in the area of the Winnipesaukee WWTP discharge. The NHDES "One Stop" database provided in-stream sampling results from the MPR-Study just upstream of the Winnipesaukee WWTP outfall on July 27, 2010 and September 21, 2010. These samples were 17.24 ug/l and 8.22 ug/l, respectively. The median of these upstream samples is 12.73 ug/l (0.0127 mg/l).

To determine if there is reasonable potential for the Winnipesaukee WWTP to cause or contribute to an exceedance of the Gold Book target (0.100 mg/l), a mass balance must be done solving for the projected downstream concentration. This mass balance, and the resulting downstream concentration are shown below.

$$Q_d C_d + Q_S C_S = Q_r C_r$$

where:

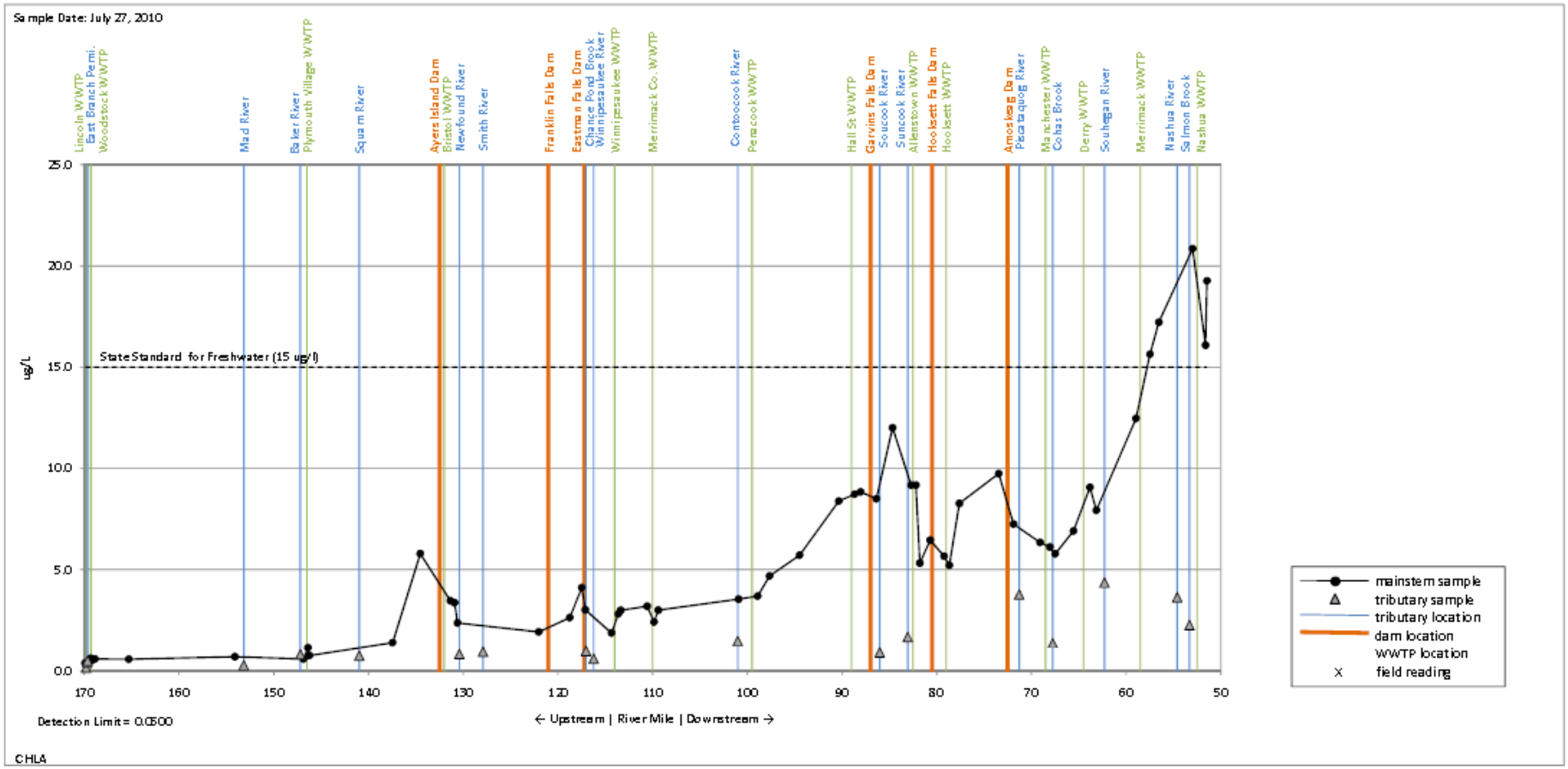
Q_d = design flow of facility (11.5 mgd = 17.8 cfs)
C_d = 95th percentile April to October effluent phosphorus concentration (5.63 mg/l)
Q_S = upstream 7Q10 flow (492.34 cfs = 318.2 mgd)
C_S = upstream median river phosphorus concentration (0.0127 mg/l)
Q_r = downstream 7Q10 flow (Qs + Qd = 510.14 cfs = 329.7 mgd)
C_r = downstream river phosphorus concentration (Gold Book target = 0.100 mg/l)

Based on the above equation, the resultant downstream river phosphorus concentration (C_r) is 0.209 mg/l. Since this exceeds 90% of the Gold Book target value of 0.100 mg/l (reserving 10% of the assimilative capacity in accordance with Env-Wq 1705.01), the facility does have the

reasonable potential to cause or contribute to a violation of water quality standards.

Additionally, Section 303(d) of the CWA requires States to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls and, as such, require the development of total maximum daily loads. As mentioned previously, the section of the Merrimack River to which the treatment plant discharges is not identified as impaired by New Hampshire's 2012 *Final List of Threatened or Impaired Water That Require a TMDL*. However, both dissolved oxygen (DO) and chlorophyll-a levels in segments farther downstream suggest eutrophic effects are present in the Merrimack River. DO saturation is impaired beginning in the segment of the Merrimack River in Concord, NH (segment NHRIV700060302-24). Chlorophyll-a levels begin to increase appreciably farther downstream and trigger impairment status beginning in Nashua, NH (segment NHRIV700061206-24). The chlorophyll-a levels taken on July 27. 2010 are shown in the figure below from the *Upper Merrimack and Pemigewasset River Study Monitoring Data Report* (December 2012).

Mainstem, Tributary, and WWTP Effluent Samples
Chlorophyll-a



*Note that a chlorophyll-a concentration of 15 ug/l is not the state standard but rather a listing criterion in the CALM.

In complex river systems such as this, significant lag time might occur between loading of phosphorus and visible effects of that loading. Geological, physical and biological habitat factors that affect the extent and timing of algal response given adequate to high nutrient supply and non-toxic conditions include: current velocity, turbidity/color, open/closed canopy, stream depth, degree of scouring, degree of macroinvertebrate grazing, and depth to width ratio. *See Nutrient Criteria Technical Guidance Manual, Rivers and Streams* (July 2000) at 21. Hence, an instream exceedence of 0.1 mg/l TP just downstream of the Winnipesaukee WWTP would have the reasonable potential to cause or contribute to a chlorophyll-a impairment farther downstream, in this case near Nashua. Additionally, the DO impairments in the river segments between Concord and Nashua mentioned above is further evidence that eutrophication is occurring in conjunction with the rising chlorophyll-a levels. These downstream DO and chlorophyll-a impairments support the need for a TP permit limit in the draft permit.

Hence, the current discharge of phosphorus from the Winnipesaukee WWTP has the reasonable potential to cause or contribute to violations of water quality standards. To address this reasonable potential, a mass-based effluent limit for phosphorus will be imposed. To ensure a mass-based limit is protective under worst-case conditions, the limit is calculated using the lowest expected receiving water flow and effluent flow. Hence, the upstream 7Q10 receiving water flow (318.2 mgd) and the lowest monthly average effluent flow during the review period (3.99 mgd in September 2015, see Attachment B) are used. The numeric mass-based limit is determined based upon the following equations:

$$Q_d C_d + Q_S C_S = Q_r C_r (0.90)$$

$$M_d = Q_d C_d * 8.345$$

combining these equations results in:

$$M_d = Q_d C_d * 8.345 = (Q_r C_r (0.90) - Q_S C_S) * 8.345$$

where:

M_d = mass-based phosphorus limit
Q_d = effluent flow in mgd (lowest effluent monthly average flow = 3.99 mgd)
C_d = effluent phosphorus concentration in mg/L
Q_S = upstream 7Q10 flow (318.2 mgd)
C_S = upstream median river phosphorus concentration (0.0127 mg/l)
Q_r = downstream 7Q10 flow (Qs + Qd = 322.2 mgd)
C_r = downstream river phosphorus concentration (Gold Book target = 0.100 mg/l)
0.90 = factor to reserve 10 % assimilative capacity
8.345 = factor to convert from *mgd * mg/l* to *lb/d*

Solving for M_d gives the maximum allowable mass the facility may discharge without violating water quality standards. This allowable discharge is **208 lb/d**, which is equivalent to approximately 2.2 mg/l at design flow and approximately 6.3 mg/l at the lowest monthly average flow of 3.99 mgd. This mass-based limit is applied seasonally, from April 1st through October 31st, as a monthly average limit to be

monitored once per week, as indicated in the draft permit.

In order to assess plant performance, EPA evaluated TP loadings during the review period. Using the monthly average flow and phosphorus concentration reported between April and October, the average effluent load was calculated for each month. These monthly loads are shown in the table below.

Monitoring Period End Date	Flow	Phosphorus	TP Load
	Mon, MGD	Mon, MG/L	200, LB/D
	MO AVG	MO AVG	MO AVG
4/30/2011	9.441	1.3	102.4
5/31/2011	7.536	2.2	138.4
6/30/2011	5.254	2.3	100.8
7/31/2011	4.452	2.3	85.4
8/31/2011	5.134	0.33	14.1
9/30/2011	6.393	1.3	69.4
10/31/2011	6.916	2.8	161.6
4/30/2012	4.729	2.3	90.8
5/31/2012	6.135	2.7	138.2
6/30/2012	6.395	2.2	117.4
7/31/2012	4.183	5	174.5
8/31/2012	4.168	4.2	146.1
9/30/2012	4.175	3.2	111.5
10/31/2012	5.298	2.6	115.0
4/30/2013	7.228	1.3	78.4
5/31/2013	5.738	2.7	129.3
6/30/2013	7.101	1.4	83.0
7/31/2013	8.234	1.2	82.5
8/31/2013	5.8	3.2	154.9
9/30/2013	5.144	4	171.7
10/31/2013	4.37	3.3	120.3
4/30/2014	10.405	0.7	60.8
5/31/2014	6.533	2.3	125.4
6/30/2014	5.058	2	84.4
7/31/2014	5.948	2.5	124.1
8/31/2014	5.527	1.8	83.0
9/30/2014	4.377	3.5	127.8
10/31/2014	4.145	4.5	155.7
4/30/2015	8.354	1.4	97.6
5/31/2015	5.133	1.8	77.1
6/30/2015	5.168	3	129.4
7/31/2015	5.223	2.2	95.9
8/31/2015	4.956	4.9	202.7
9/30/2015	3.99	4.5	149.8
10/31/2015	5.606	2.1	98.2
Maximum	10.41	5.	202.7
Minimum	3.99	0.33	14.1
Average	5.84	2.5437	114.2

As shown in the table, the proposed limit of 208 lb/d would not have been exceeded during the monitoring period. Hence, EPA notes that the WWTP should be able to comply with the proposed TP limitation through optimized operation of the existing facility.

The analysis above was done using data from a study conducted by the Army Corps of Engineers. This study is not yet completed and may result in recommended phosphorus allocations for point sources

along the Merrimack River. It is the Region's position that, in making reasonable potential determinations, no one source of information should necessarily be given definitive weight, nor should the absence of any particular information source necessarily preclude EPA from establishing an effluent limit. The approach of utilizing available technical materials generated by EPA and States, as supplemented by other information reasonably available at the time of permit reissuance, is also reasonable in light of federal regulations requiring EPA to include requirements that will achieve state water quality standards when reissuing a permit and prohibiting issuance of a permit when the imposition of conditions cannot ensure compliance with the applicable state water quality requirements of all affected States. *See* 40 C.F.R. §§ 122.4(d), 122.44(d)(1); *see also* CWA §§ 301(b)(1)(C) and 401(a)(2).

F. Whole Effluent Toxicity

EPA's **Technical Support Document for Water Quality Based Toxics Control,** EPA/505/2-90-001, March 1991, recommends using an "integrated strategy" containing both pollutant (chemical) specific approaches and whole effluent (biological) toxicity approaches to control toxic pollutants in effluent discharges from entering the nation's waterways. These approaches are designed to protect aquatic life and human health. Pollutant specific approaches address individual chemicals, whereas whole effluent toxicity (WET) approaches evaluate interactions between pollutants thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. Furthermore, WET measures the "additive" and/or "antagonistic" effects of individual chemical pollutants which pollutant specific approaches do not, thus the need for both approaches. In addition, the presence of an unknown toxic pollutant can be discovered and addressed through this process.

Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts and New Hampshire law states that, "all waters shall be free from toxic substances or chemical constituents in concentrations or combinations that injure or are inimical to plants, animals, humans, or aquatic life; ...." (NH RSA 485-A:8, VI and the NH Code of Administrative Rules, PART Env-Wq 1703.21). The federal NPDES regulations at 40 CFR §122.44(d)(1)(v) require whole effluent toxicity limits in a permit when a discharge has a "reasonable potential" to cause or contribute to an excursion above the State's narrative criteria for toxicity. Inclusion of the whole effluent toxicity limit in the draft permit will demonstrate the compliance with narrative water quality criteria of "no toxics in toxics amounts" found in both the CWA and State of New Hampshire regulations.

The 2009 permit contains quarterly WET testing for both the *Ceriodaphnia dubia* (daphnid) and *Pimephales promelas* (fathead minnow) with an LC50 limit of 100 percent. During the review period, there were no violations for the daphnid but there were 6 out of 20 violations for the fathead minnow (See Attachment B). Since there has not been any significant change to the facility or dilution factor, these permit limits have been carried forward in the draft permit. Toxicity test samples shall be collected and the tests completed each year during the quarters ending March 31st, June 30th, September 30th, and December 31st of each year. Toxicity test results shall be submitted by the 15th day of the month following the end of the quarter sampled.

Toxicity testing frequency may be reduced, to not less than once per year, after the completion of a minimum of the most recent four successive toxicity tests of effluent, all of which must be valid tests and demonstrate compliance with the permit limits for whole effluent toxicity. Any requests for

toxicity testing frequency reduction must be made to EPA-New England in writing. If toxicity persists in the effluent, monitoring frequency and testing requirements may be increased. The permit may also be modified, or alternatively revoked and reissued, to incorporate additional toxicity testing requirements or chemical specific limits. These actions will occur if the Regional Administrator determines the NH standards are not adequately enforced and uses of the receiving water are not adequately protected during the remaining life of the permit. Results of these toxicity tests are considered "new information not available at the permit development", therefore, the permitting authority is allowed to use said information to modify an issued permit under authority in 40 C.F.R. §122.62(a)(2).

This draft permit, as in the 2009 permit, requires the permittee to continue reporting selected parameters from the chemical analysis of the WET tests' 100 percent effluent sample. Specifically, hardness, total ammonia nitrogen as nitrogen, aluminum, cadmium, copper, lead, nickel and zinc are required to be reported on the appropriate DMR for entry into EPA's data base.

G. Pretreatment

The permittee is required to administer a pretreatment program based on the requirements of 40 C.F.R. Part 403 and Section 307 of the CWA. The permittee's pretreatment program received EPA approval on February 27, 1985 and, as a result, appropriate pretreatment program requirements were incorporated into the existing permit, making it consistent with the approval and federal pretreatment regulations in effect when the permit was issued.

Periodically, the Federal Pretreatment Regulations in 40 C.F.R. Part 403 are amended. Those amendments establish new requirements for implementation of the pretreatment program. Upon reissuance of this NPDES permit, the permittee is obligated to modify its pretreatment program to be consistent with the current Federal regulations. Those activities that the permittee must address include, but are not limited to, the following: (1) develop and enforce EPA approved specific effluent limits (technically-based local limits); (2) revise the local sewer use ordinance or regulation, as appropriate, to be consistent with Federal regulations; (3) develop an enforcement response plan; (4) implement a slug control evaluation program; (5) track significant noncompliance for industrial users; and (6) establish a definition of and track significant industrial users. These requirements are necessary to ensure continued compliance with the NPDES permit.

In addition to the requirements described above, the draft permit requires the permittee to submit to EPA in writing, within 180 days of the effective date of the permit, a description of proposed changes to the permittee's pretreatment program deemed necessary to assure conformity with current federal pretreatment regulations. These requirements are included in the draft permit to ensure that the pretreatment program is consistent and up to date with all pretreatment requirements in effect. Lastly, the permittee must continue to submit, annually on May 1st, a pretreatment report detailing the activities of the program for the twelve month period ending 60 days prior to the due date.

H. Operation and Maintenance

Regulations regarding proper operation and maintenance are found at 40 C.F.R. § 122.41(e). These regulations require, "that the permittee shall at all times 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 the permit." The treatment plant and the collection system are included in the definition "facilities and systems of treatment and control" and are therefore subject to proper operation and maintenance requirements.

Similarly, a permittee has a "duty to mitigate" pursuant to 40 C.F.R. § 122.41(d), which requires the permittee to "take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment."

General requirements for proper operation and maintenance and mitigation have been included in Part II of the permit. Specific permit conditions have also been included in Part I.B., I.C., and I.D. of the draft permit. These requirements include mapping of the wastewater collection system, reporting of unauthorized discharges including SSOs, maintaining an adequate maintenance staff, performing preventative maintenance, controlling inflow and infiltration to the extent necessary to prevent SSOs and I/I related effluent violations at the wastewater treatment plant, and maintaining alternate power where necessary.

I. Sludge

Section 405(d) of the CWA requires that EPA develop technical standards regulating the use and disposal of sewage sludge. These regulations were signed on November 25, 1992, published in the Federal Register on February 19, 1993, and became effective on March 22, 1993. Domestic sludge, which is land applied, disposed of in a surface disposal unit or fired in a sewage sludge incinerator, is subject to Part 503 technical standards. Part 503 regulations have a self-implementing provision, however, in that the CWA requires implementation through permits. Domestic sludge, which is disposed of in a municipal solid waste landfill, is in compliance with Part 503 regulations, provided that the sludge meets the quality criteria of the landfill and the landfill meets the requirements of 40 C.F.R. Part 258.

The draft permit requires that sewage sludge use and disposal practices meet Section 405(d) Technical Standards of the CWA. In addition, the EPA Region I – NPDES Permit Sludge Compliance Guidance document dated November 4, 1999 is included with the draft permit for use by the permittee in determining their appropriate sludge conditions for their chosen method of sludge disposal. The permittee is required to submit to EPA and to NHDES-WD annually, by February 19th, the various sludge reporting requirements as specified in the guidance document for the chosen method of sludge disposal.

The Winnipesaukee River Basin Program Wastewater Treatment Plant generates approximately 583 dry metric tons of sludge each year. The sludge undergoes mesophilic anaerobic digestion to achieve sufficient pathogen reduction for land application of Class B biosolids.

J. Essential Fish Habitat and Endangered Species

1. Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable

Fisheries Act of 1996 (Public Law 104267), established a new requirement to describe and identify (designate) "essential fish habitat" (EFH) in each federal fishery management plan. Only species managed under a federal fishery management plan are covered. Fishery Management Councils determine which area will be designated as EFH. The Councils have prepared written descriptions and maps of EFH, and include them in fishery management plans or their amendments. EFH designations for New England were approved by the Secretary of Commerce on March 3, 1999.

The 1996 Sustainable Fisheries Act broadly defined EFH as "waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Waters include aquatic areas and their associated physical, chemical, and biological properties. Substrate includes sediment, hard bottom, and structures underlying the waters. Necessary means the habitat required to support a sustainable fishery and the managed species' contribution to a healthy ecosystem. Spawning, breeding, feeding, or growth to maturity covers all habitat types utilized by a species throughout its life cycle. Adversely affect means any impact which reduces the quality and/or quantity of EFH. Adverse impacts may include direct (i.e. contamination, physical disruption), indirect (i.e. loss of prey), site specific or habitat wide impacts including individual, cumulative, or synergistic consequences of actions.

According to the National Marine Fisheries Service (NMFS), the Merrimack River is EFH for Atlantic salmon (*Salmo salar*). According to the New Hampshire Department of Fish and Game, Atlantic salmon are stocked further upstream in the Merrimack River watershed but not in this area. This stretch of the river is used primarily for downstream passage. Adult Atlantic salmon returning to the river from the ocean do not make it up this far because they are trapped at a dam in Lawrence, Massachusetts.

EPA has concluded that the limits and conditions contained in the draft permit minimize adverse effects to EFH for the following reasons:

- The permit prohibits the discharge from causing a violation of State water quality standards.
- The permit prohibits the discharge of pollutants or combinations of pollutants in toxic amounts.
- The permit requires toxicity testing four (4) times each year to ensure that the discharge does not present toxicity problems.
- The facility utilizes ultraviolet light disinfection for disinfection but also has water quality-based limits for total residual chlorine when necessary.

EPA believes the draft permit adequately protects EFH and therefore additional mitigation is not warranted. NMFS will be notified and EFH consultation will be reinitiated if adverse impacts to EFH are detected as a result of this permit action or if new information becomes available that changes the basis for these conclusions.

2. Endangered Species

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in

the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NOAA Fisheries) administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish and wildlife to see if any such listed species might potentially be impacted by the re-issuance of this NPDES permit. Based on the normal distribution of these species, it is highly unlikely that they would be present in the vicinity of this discharge. Furthermore, effluent limitations and other permit conditions which are in place in this draft permit should preclude any adverse effects should there be any incidental contact with listed species in the Merrimack River.

EPA believes the proposed limits are sufficiently stringent to assure that water quality standards will be met and to ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat. The Region finds that adoption of the proposed permit is unlikely to adversely affect any threatened or endangered species or its critical habitat. If adverse effects do occur as a result of this permit action, or if new information becomes available that changes the basis for this conclusion, then EPA will notify and initiate consultation with both the USFWS and the NOAA Fisheries. A copy of the draft permit has been provided to both USFWS and NOAA Fisheries for review and comment.

V. Antidegradation

The draft permit includes allowable wasteloads and parameter coverages at least as stringent as the 2009 permit. There is no anticipated new or increased activity pursuant to Env-Wq 1708.02(a). Since the State of New Hampshire has indicated that there will be no lowering of water quality and no loss of existing uses, no additional antidegradation review is needed.

VI. Monitoring and Reporting

The effluent monitoring requirements have been established to yield data representative of the discharge under authority of Section 308 (a) of the CWA in accordance with 40 CFR §§122.41 (j), 122.44 (l), and 122.48.

The draft permit requires the permittee to continue to electronically report monitoring results obtained during each calendar month as Discharge Monitoring Report (DMRs) to EPA and the state using NetDMR no later than the 15th day of the month following the completed reporting period.

NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR can be found on the EPA Region 1 NetDMR website located at http://www.epa.gov/region1/npdes/netdmr/index.html.

In most cases, reports required under the permit shall be submitted to EPA as an electronic attachment through NetDMR. Certain exceptions are provided in the permit such as for the submittal of pre-treatment reports and for providing written notifications required under the Part II Standard Permit

Conditions. With the use of NetDMR to report DMRs and reports, the permittee is no longer be required to submit hard copies of DMRs or other reports to EPA and the NHDES. State reporting requirements are further explained in the draft permit.

VII. State Certification Requirements

EPA may not issue a permit unless the state water pollution control agency with jurisdiction over the receiving water(s) in which the discharge originates either certifies that the effluent limitations and/or conditions contained in the permit are stringent enough to assure, among other things, that the discharge will not cause the receiving water to violate state water quality standards or it is deemed that the agency waives its right to certify as set forth in 40 CFR § 124.53. The NHDES is the certifying authority within the State of New Hampshire.

The staff of the NHDES-WD, Wastewater Engineering Bureau, has reviewed the draft permit and advised EPA-Region I that the limitations are adequate to protect water quality. EPA-Region I has requested permit certification by the state and expects that the draft permit will be certified. Regulations governing state certification are set forth in 40 CFR §§124.53 and §124.55.

The State's certification should include the specific conditions necessary to assure compliance with applicable provisions of the CWA, Sections 208(e), 301, 302, 303, 306, and 307 and with the appropriate requirements of State law. In addition, the State should provide a statement of the extent to which each condition of the draft permit can be made less stringent without violating the requirements of State law. Since the State's certification is provided prior to permit issuance, any failure by the State to provide this statement waives the State's right to certify or object to any less stringent condition. These less stringent conditions may be established by EPA during the permit issuance process based on information received following the public notice of the draft permit. If the State believes that any conditions more stringent than those contained in the draft permit are necessary to meet the requirements of either the CWA or State law, the State should include such conditions and, in each case, cite the CWA or State law reference upon which that condition is based. Failure to provide such a citation waives the right to certify as to that condition.

Reviews and appeals of limitations and conditions attributable to State Certification shall be made through the applicable procedures of the State and may not be made through the applicable procedures set forth in 40 C.F.R. Part 124.

VIII. Comment Period, Hearing Requests, and Procedures for Final Decisions

All persons, including applicants, who believe any condition of the draft permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period to:

Mr. Michael Cobb, Environmental Engineer
U.S. Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square
Suite 100, Mail Code: OEP06-1
Boston, Massachusetts 02109-3912

Any person, prior to such date, may submit a request in writing for a public hearing to consider the draft permit to EPA-Region 1 and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit, the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA-Region 1's Boston office.

Following the close of the comment period, and after a public hearing, if such hearing is held, the Regional Administrator will issue a final permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice.

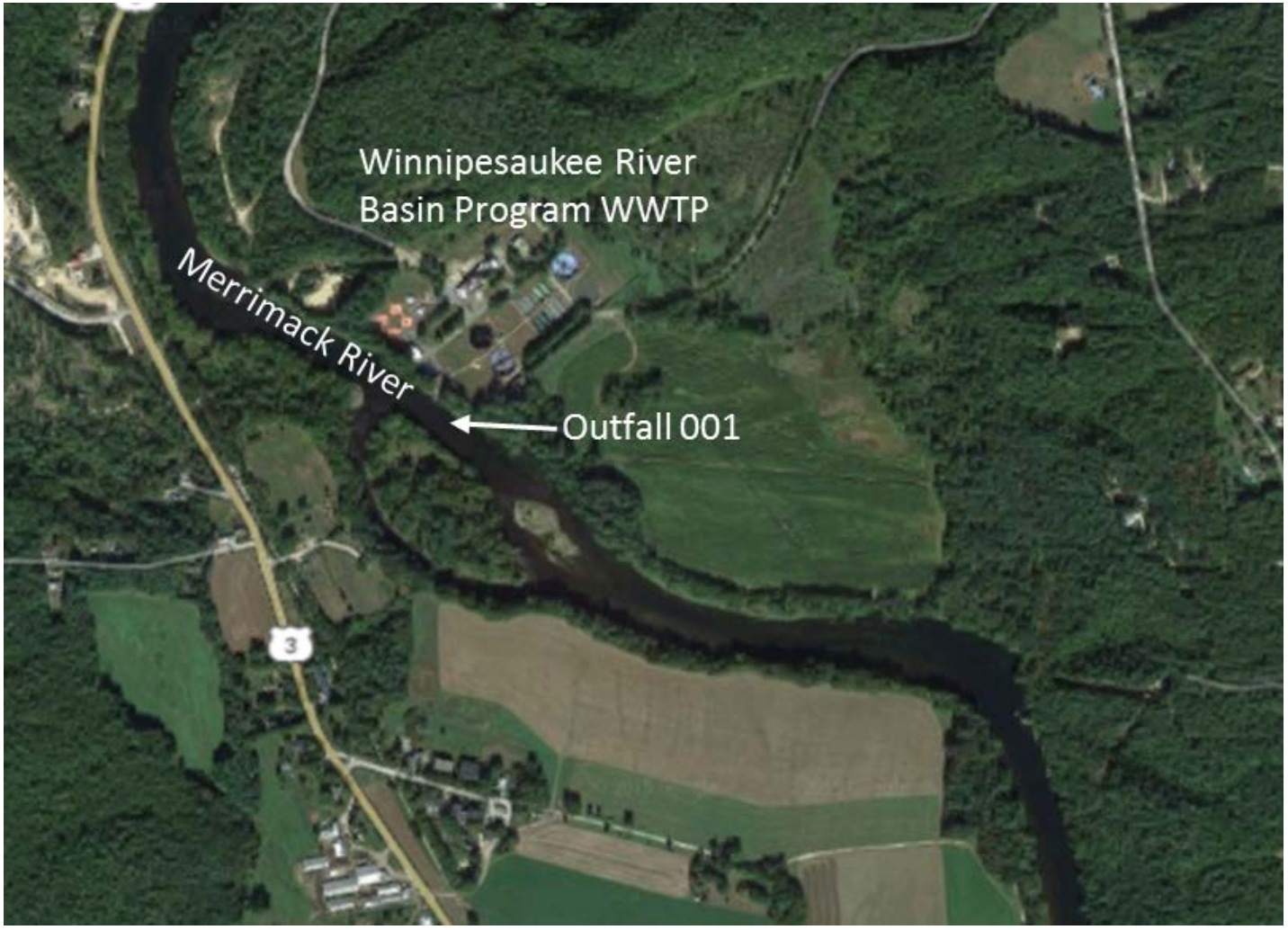
IX. EPA – Region 1 Contact

Additional information concerning the draft permit may be obtained between the hours of 9:00 A.M. and 5:00 P.M. (8:00 A.M. and 4:00 P.M. for the state), Monday through Friday, excluding holidays from:

Mr. Michael Cobb, Environmental Engineer
U.S. Environmental Protection Agency
Office of Ecosystem Protection
5 Post Office Square
Suite 100, Mail Code: OEP06-1
Boston, Massachusetts 02109-3912
Telephone No.: (617) 918-1369
FAX No.: (617) 918-0369

_____ **Ken Moraff, Director**
Date: **Office of Ecosystem Protection**
U.S. Environmental Protection Agency

ATTACHMENT A – WWTP LOCATION



* Aerial view taken from www.google.com/maps on November 23, 2015

ATTACHMENT B – SUMMARY OF DMR DATA

The following effluent characteristics were derived from analysis of discharge monitoring data collected from January 2011 through December 2015. All data are taken from the monthly Discharge Monitoring Reports and quarterly WET tests. Bold, red data indicates a permit violation.

Outfall 001

	CBOD5						
Monitoring Period End Date	2400, LB/D MO AVG	25, MG/L MO AVG	3840, LB/D WKLY AVG	40, MG/L WKLY AVG	4320, LB/D DAILY MX	45, MG/L DAILY MX	85, % MO AV MN
1/31/2011	489.	14	571.	17	657.	19	92
2/28/2011	542.	16	757.	23	785.	24	91
3/31/2011	774.	12	987.	15	1201.	16	89
4/30/2011	606.	8	674.	9	732.	10	90
5/31/2011	865.	14	1181.	16	1314.	16	87
6/30/2011	507.	12	648.	16	700.	17	93
7/31/2011	552.	15	789.	24	851.	25	93
8/31/2011	588.	13	955.	19	1270.	24	93
9/30/2011	595.	11	829.	12	925.	14	91
10/31/2011	439.	8	515.	10	570.	11	94
11/30/2011	519.	10	633.	12	709.	13	92
12/31/2011	593.	9	682.	12	790.	14	93
1/31/2012	531.	11	704.	16	782.	16	93
2/29/2012	710.	18	867.	23	905.	24	90
3/31/2012	935.	20	1093.	26	1203.	29	86
4/30/2012	556.	14	831.	18	1025.	21	92
5/31/2012	549.	11	785.	14	1026.	16	92
6/30/2012	515.	10	797.	15	905.	17	94
7/31/2012	370.	11	392.	13	502.	15	95
8/31/2012	297.	9	405.	13	352.	11	96
9/30/2012	260.	7	348.	11	404.	11	96
10/31/2012	493.	10	531.	11	1125.	16	95
11/30/2012	436.	10	892.	14	658.	13	94
12/31/2012	344.	8	500.	10	516.	10	95
1/31/2013	520.	12	589.	14	808.	18	92
2/28/2013	774.	19	1080.	27	1212.	30	89
3/31/2013	728.	13	1169.	19	1317.	20	89
4/30/2013	510.	9	528.	9	551.	11	93
5/31/2013	622.	13	717.	17	822.	17	92
6/30/2013	432.	7	793.	12	704.	11	94
7/31/2013	894.	13	1287.	16	1698.	19	89
8/31/2013	704.	15	808.	17	901.	19	91
9/30/2013	509.	12	623.	16	681.	17	93
10/31/2013	501.	14	665.	18	873.	22	93
11/30/2013	451.	12	582.	16	681.	16	95
12/31/2013	553.	14	608.	15	730.	17	92
1/31/2014	637.	13	755.	18	800.	18	91
2/28/2014	661.	16	751.	20	898.	21	91
3/31/2014	881.	19	1123.	24	1350.	25	88
4/30/2014	969.	11	1110.	14	1144.	18	88
5/31/2014	903.	17	1240.	21	1421.	24	88
6/30/2014	490.	12	565.	13	639.	14	94
7/31/2014	474.	9	621.	13	791.	13	95
8/31/2014	479.	11	643.	14	827.	15	94
9/30/2014	411.	11	431.	13	485.	14	95
10/31/2014	315.	9	393.	12	505.	15	96
11/30/2014	485.	13	606.	15	694.	17	93
12/31/2014	895.	15	1061.	16	1283.	18	87

1/31/2015	689.	14	1261.	21	1239.	21	89
2/28/2015	522.	14	555.	15	611.	16	91
3/31/2015	675.	16	797.	20	970.	25	91
4/30/2015	808.	12	859.	13	961.	15	88
5/31/2015	431.	10	754.	13	669.	16	93
6/30/2015	362.	8	414.	10	538.	12	94
7/31/2015	306.	8	348.	8	371.	10	95
8/31/2015	1178.	**28**	2101.	**50**	3082.	**77**	85
9/30/2015	260.	8	310.	9	396.	11	96
10/31/2015	328.	7	367.	8	498.	9	95
11/30/2015	534.	11	742.	15	768.	16	91
12/31/2015	607.	11	631.	13	786.	13	91
Maximum	1178.	28.	2101.	50.	3082.	77.	96.
Minimum	260.	7.	310.	8.	352.	9.	85.
Average	576.05	12.2833	754.2167	15.8833	876.85	17.8667	91.95

Outfall 001

Monitoring Period End Date	TSS						
	2880, LB/D	30, MG/L	4320, LB/D	45, MG/L	4800, LB/D	50, MG/L	85, %
	MO AVG	MO AVG	WKLY AVG	WKLY AVG	DAILY MX	DAILY MX	MO AV MN
1/31/2011	432.	12.7	490.	15	609.	18.5	95
2/28/2011	521.	15.8	771.	24	903.	28	94
3/31/2011	793.	11.8	1208.	15	1330.	15.5	93
4/30/2011	477.	6	585.	7	602.	6.8	95
5/31/2011	655.	10.2	985.	13	1183.	13.5	93
6/30/2011	374.	8.8	470.	12	552.	13	97
7/31/2011	454.	12.6	612.	17	734.	19.5	96
8/31/2011	490.	11.2	695.	15	847.	16	96
9/30/2011	349.	6.1	435.	7	587.	8	97
10/31/2011	484.	8.8	547.	11	583.	12.5	96
11/30/2011	614.	11.6	771.	14	818.	15	95
12/31/2011	548.	8.6	675.	10	908.	11.5	96
1/31/2012	491.	10.6	678.	15	837.	18	95
2/29/2012	864.	22.4	1168.	31	1206.	32	90
3/31/2012	1277.	26.8	1653.	34	1776.	36.5	88
4/30/2012	624.	15.4	1041.	22	1195.	24.5	94
5/31/2012	633.	12.1	895.	18	1122.	19	94
6/30/2012	488.	9.1	627.	11	673.	11.5	96
7/31/2012	234.	6.7	358.	10	387.	11.5	98
8/31/2012	144.	0	331.	10	368.	11.5	100
9/30/2012	97.	0	366.	12	263.	8	100
10/31/2012	364.	6.9	583.	10	1090.	15.5	98
11/30/2012	326.	7.1	819.	13	548.	10	97
12/31/2012	236.	0	515.	10	590.	11	100
1/31/2013	616.	14.3	700.	16	718.	16	95
2/28/2013	752.	18.6	857.	21	909.	22.5	93
3/31/2013	970.	17.8	1536.	24	1770.	25.5	91
4/30/2013	541.	9	626.	10	632.	11	95
5/31/2013	558.	11.2	542.	13	1027.	15	95
6/30/2013	608.	10.3	975.	15	774.	14.5	95
7/31/2013	1180.	16.5	2105.	26	2458.	27.5	92
8/31/2013	827.	17.6	1003.	21	1076.	23	92
9/30/2013	526.	12.4	673.	17	741.	18.5	95
10/31/2013	664.	18.2	948.	25	1052.	26.5	94
11/30/2013	557.	15	704.	17	838.	17.5	95
12/31/2013	778.	19.8	872.	22	900.	21.5	92
1/31/2014	667.	13.7	896.	21	923.	22	95

2/28/2014	686.	16.9	929.	24	1068.	27.5	94
3/31/2014	976.	21.1	1320.	28	1540.	28.5	91
4/30/2014	1061.	12	1637.	16	1767.	17	91
5/31/2014	1015.	18.7	1229.	21	1391.	23.5	91
6/30/2014	423.	10.2	480.	12	552.	13.5	97
7/31/2014	545.	10.4	731.	15	1187.	17.5	97
8/31/2014	394.	8.8	949.	14	565.	12	97
9/30/2014	367.	10.1	423.	13	478.	14	96
10/31/2014	501.	14.8	761.	23	870.	26	95
11/30/2014	591.	15.7	647.	18	737.	20	94
12/31/2014	1121.	19.3	1241.	27	1523.	32.5	90
1/31/2015	605.	11.9	1253.	19	1115.	18	94
2/28/2015	406.	10.7	499.	14	606.	16.5	97
3/31/2015	301.	7	315.	8	496.	9	98
4/30/2015	691.	10.1	890.	14	903.	14	95
5/31/2015	162.	4	491.	8	262.	6	98
6/30/2015	384.	8.8	489.	11	606.	13.5	97
7/31/2015	366.	9.1	400.	11	501.	13.5	97
8/31/2015	2404.	**57**	4029.	**94**	**7266.**	**181.5**	**84**
9/30/2015	274.	8.2	350.	10	396.	11	98
10/31/2015	373.	8	490.	12	655.	15	96
11/30/2015	856.	17	1251.	25	1317.	26.5	91
12/31/2015	765.	14.5	892.	18	926.	19	93
Maximum	2404.	57.	4029.	94.	7266.	181.5	100.
Minimum	97.	0.	315.	7.	262.	6.	84.
Average	608.	12.6667	856.85	17.65	1004.2667	20.3883	94.7167

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Monitoring Period End Date	Flow		TRC		E Coli		pH		Phosphorus	Arsenic
	Mon, MGD	Mon, MGD	.27, MG/L	.46, MG/L	126, #/100mL	406, #/100mL	6, SU	8, SU	Mon, MG/L	Mon, MG/L
	DAILY MX	MO AVG	MO AVG	DAILY MX	MO GEO	DAILY MX	MINIMUM	MAXIMUM	MO AVG	DAILY MX
1/31/2011	4.415	4.043	C	C	3	11.	6.78	7.07	2.7	--
2/28/2011	4.376	4.032	C	C	3	19.	6.77	7.06	2.9	--
3/31/2011	15.056	8.759	0.12	.24	6	167.	6.39	7.04	3.4	0.001
4/30/2011	14.222	9.441	0.11	.16	5	10.	6.44	6.87	1.3	--
5/31/2011	10.503	7.536	0.08	.15	11	46.	6.49	6.96	2.2	--
6/30/2011	5.909	5.254	0.03	.09	3	52.	6.73	7.08	2.3	0.0011
7/31/2011	5.02	4.452	C	C	11	35.	6.85	7.3	2.3	--
8/31/2011	11.157	5.134	0	.09	8	85.	6.5	7.2	0.33	--
9/30/2011	9.273	6.393	0	.09	6	24.	6.26	7.14	1.3	0.0021
10/31/2011	9.93	6.916	0	.2	1	15.	6.38	7.22	2.8	--
11/30/2011	7.285	6.412	0.06	.16	4	17.	6.87	7.55	2.6	--
12/31/2011	12.042	7.494	0.07	.15	5	22.	6.74	7.05	1.6	0.0015
1/31/2012	7.228	5.591	0	.13	5	20.	6.74	7.22	1.7	--
2/29/2012	5.762	4.745	C	C	24	84.	6.82	7.09	2.2	--
3/31/2012	7.662	5.985	C	C	16	45.	6.7	7.15	2.7	0.0021
4/30/2012	5.85	4.729	C	C	15	54.6	6.83	7.16	2.3	--
5/31/2012	7.9	6.135	C	C	5	28.1	6.7	7.11	2.7	--
6/30/2012	10.98	6.395	0	.15	11	33.6	6.69	7.26	2.2	0.0014
7/31/2012	4.99	4.183	C	C	11	72.3	6.87	7.37	5	--
8/31/2012	5.08	4.168	C	C	3	22.3	6.58	7.22	4.2	--
9/30/2012	5.385	4.175	C	C	1	6.3	6.39	7.25	3.2	0.0017
10/31/2012	4.999	5.298	0.07	.07	3	47.1	6.13	7.27	2.6	--
11/30/2012	7.026	5.392	0	.06	7	23.8	6.95	7.57	2.3	--
12/31/2012	8.7	5.318	0.07	.15	8	27.9	7.07	7.4	2.5	0.0016
1/31/2013	5.73	5.127	0.14	.14	12	44.8	7.07	7.4	2.5	--

2/28/2013	7.2	5.009	0	.	55	235.9	6.7	7.5	3	--
3/31/2013	9.873	6.422	0.07	.21	15	63.8	7.01	7.39	2.4	0.0012
4/30/2013	8.552	7.228	0.06	.12	6	57.3	7	7.3	1.3	--
5/31/2013	8.552	5.738	0.12	.36	18.4	104.6	7	7.5	2.7	--
6/30/2013	9.844	7.101	0	.12	4	9.8	6.96	7.37	1.4	0.0012
7/31/2013	11.087	8.234	C	C	50.6	**727.**	6.9	7.4	1.2	--
8/31/2013	7.143	5.8	C	C	**133.4**	**816.4**	7.2	7.7	3.2	--
9/30/2013	5.987	5.144	C	C	13.9	124.6	7.2	7.5	4	0.0017
10/31/2013	4.776	4.37	C	C	12.5	48.7	7.2	7.5	3.3	--
11/30/2013	6.282	4.335	C	C	25.2	83.3	7	7.5	2.8	--
12/31/2013	5.336	4.725	C	C	27.2	**920.8**	7	7.3	2	0.0015
1/31/2014	7.919	5.976	C	C	4.7	23.1	6.8	7.3	1.8	--
2/28/2014	5.912	5.003	C	C	7.7	60.5	6.78	7.74	1.9	--
3/31/2014	10.849	5.758	C	C	7.3	36.4	6.66	7.58	3.5	0.0012
4/30/2014	14.511	10.405	C	C	10	52.9	6.23	7.67	0.7	--
5/31/2014	8.468	6.533	C	C	10.1	172.	6.77	7.29	2.3	--
6/30/2014	5.71	5.058	C	C	3.8	30.9	7.06	7.56	2	0.0011
7/31/2014	8.626	5.948	C	C	23.9	387.3	6.85	7.42	2.5	--
8/31/2014	7.274	5.527	C	C	18.3	137.6	7	7.4	1.8	--
9/30/2014	5.291	4.377	C	C	7.2	52.9	6.97	7.47	3.5	0.0013
10/31/2014	5.071	4.145	C	C	8	137.4	7.09	7.45	4.5	--
11/30/2014	5.032	4.46	C	C	39.7	248.1	7.02	7.38	3.7	--
12/31/2014	9.62	7.474	C	C	35.5	117.8	6.87	7.29	3.6	0.0014
1/31/2015	7.429	5.729	C	C	22.8	52.8	6.94	7.33	2.4	--
2/28/2015	5.406	4.575	C	C	25.3	101.9	7.06	7.35	2.6	--
3/31/2015	7.753	5.256	C	C	6	25.6	6.9	7.3	2.3	0.0014
4/30/2015	11.541	8.354	C	C	23.7	77.1	6.71	7.23	1.4	--
5/31/2015	6.462	5.133	C	C	8.2	37.9	6.96	7.39	1.8	--
6/30/2015	6.555	5.168	C	C	12.8	32.7	6.96	7.4	3	0.
7/31/2015	7.826	5.223	C	C	26.4	275.5	6.79	7.36	2.2	--
8/31/2015	5.832	4.956	C	C	**146.3**	**920.8**	7.02	7.58	4.9	--
9/30/2015	4.357	3.99	C	C	15.2	83.6	6.9	7.63	4.5	0.001
10/31/2015	11.945	5.606	C	C	27.2	129.6	6.45	7.34	2.1	--
11/30/2015	7.483	6.065	C	C	21.5	46.4	6.41	7.29	3.6	--
12/31/2015	8.69	6.577	C	C	30	90.8	6.79	7.28	3.4	0.001
Maximum	15.056	10.405	0.14	0.36	146.3	920.8	--	7.74	5.	0.0021
Minimum	4.357	3.99	0.	0.	1.	6.3	6.13	--	0.33	0.
Average	7.7779	5.742	0.05	0.142	18.1633	125.61	6.7983	7.3333	2.5855	0.0013

Outfall 001

Monitoring Period End Date	LC50 Static 48Hr Acute Ceriodaphnia 100, % DAILY MN	LC50 Static 48Hr Acute Pimephales 100, % DAILY MN	Aluminum mg/L DAILY MX	Cadmium mg/L DAILY MX	Chromium mg/L DAILY MX	Copper mg/L DAILY MX	Lead mg/L DAILY MX	Nickel mg/L DAILY MX	Zinc mg/L DAILY MX	Ammonia mg/L DAILY MX	Hardness mg/L DAILY MX	pH S.U. DAILY MX
3/31/2011	100	100	0.089	0.	0.	0.016	0.002	0.002	0.036	29.6	150.	7.34
6/30/2011	100	100	0.051	0.	0.	0.016	0.001	0.	0.025	12.6	110.	7.06
9/30/2011	100	100	0.024	0.	0.	0.013	0.0005	0.002	0.009	27.	130.	7.53
12/31/2011	100	100	0.027	0.	0.	0.006	0.	0.	0.11	19.1	130.	7.18
3/31/2012	100	100	0.037	0.	0.	0.015	0.0006	0.	0.025	17.2	120.	7.3
6/30/2012	100	**88.4**	0.041	0.	0.	0.017	0.0008	0.002	0.036	25.2	110.	7.37
9/30/2012	100	**90.7**	0.025	0.	0.	0.013	0.	0.002	0.022	27.7	120.	7.56
12/31/2012	100	100	0.032	0.	0.	0.01	0.0005	0.	0.026	13.3	130.	7.02
3/31/2013	100	**77.1**	0.033	0.	0.	0.018	0.002	0.002	0.035	23.9	110.	7.39
6/30/2013	100	100	0.044	0.	0.	0.027	0.0006	0.	0.026	16.7	94.	7.25
9/30/2013	100	100	0.052	0.	0.	0.009	0.0007	0.	0.017	15.1	190.	7.12
12/31/2013	100	**93.6**	0.03	0.	0.	0.01	0.	0.	0.016	30.1	93.	7.64
3/31/2014	100	100	0.043	0.	0.	0.011	0.0007	0.	0.032	18.4	150.	7.27
6/30/2014	100	100	0.069	0.	0.	0.011	0.001	0.003	0.047	8.5	130.	6.86
9/30/2014	100	**71.4**	0.	0.	0.	0.009	0.	0.	0.018	28.9	130.	7.4
12/31/2014	100	100	0.03	0.	0.	0.009	0.0006	0.	0.025	17.2	140.	7.34
3/31/2015	100	**86.6**	0.056	0.	0.	0.016	0.0006	0.	0.037	24.4	130.	7.4
6/30/2015	100	100	0.06	0.	0.	0.011	0.001	0.002	0.039	15.	110.	7.12
9/30/2015	100	100	0.024	0.	0.	0.009	0.	0.	0.022	22.5	110.	7.47
12/31/2015	100	100	0.024	0.	0.	0.009	0.	0.	0.022	22.5	110.	7.47
Maximum	100.	100.	0.089	0.	0.	0.027	0.002	0.003	0.11	30.1	190.	7.64
Minimum	100.	71.4	0.	0.	0.	0.006	0.	0.	0.009	8.5	93.	6.86
Average	100.	95.39	0.0396	0.	0.	0.0128	0.0006	0.0008	0.0313	20.745	124.9	7.305
95th Percentile	--	--	0.0727	0.	0.	0.0212	0.0016	0.0025	0.0623	--	--	--

Ambient (upstream of discharge)

Monitoring Period End Date	Aluminum	Cadmium	Chromium	Copper	Lead	Nickel	Zinc	Hardness	pH	Ammonia
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	S.U.	mg/l
	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX	DAILY MX
3/31/2011	0.079	0.	0.	0.007	0.0006	0.	0.007	12.	6.8	0.2
6/30/2011	0.079	0.	0.	0.006	0.002	0.	0.007	12.	6.97	0.
9/30/2011	0.041	0.	0.	0.006	0.001	0.	0.003	15.	7.08	0.
12/31/2011	0.12	0.	0.	0.004	0.001	0.007	0.005	11.	6.92	0.
3/31/2012	0.062	0.	0.	0.003	0.	0.	0.01	11.	7.	0.
6/30/2012	0.1	0.	0.	0.	0.	0.	0.003	10.	6.84	0.
9/30/2012	0.048	0.	0.	0.	0.	0.	0.	13.	6.88	0.
12/31/2012	0.19	0.	0.	0.003	0.	0.	0.006	8.3	6.74	0.
3/31/2013	0.057	0.	0.	0.	0.	0.	0.002	11.	6.95	0.
6/30/2013	0.13	0.	0.	0.014	0.	0.	0.005	9.1	7.25	0.
9/30/2013	0.14	0.	0.	0.002	0.0007	0.	0.004	12.	7.25	0.
12/31/2013	0.06	0.	0.	0.	0.	0.	0.	9.5	7.37	0.
3/31/2014	0.11	0.	0.	0.002	0.	0.	0.004	12.	6.9	0.
6/30/2014	0.17	0.	0.	0.	0.	0.	0.004	11.	7.46	0.
9/30/2014	0.21	0.	0.	0.	0.	0.	0.004	7.9	6.65	0.
12/31/2014	0.16	0.	0.	0.002	0.	0.	0.003	8.9	6.75	0.
3/31/2015	0.06	0.	0.	0.	0.	0.	0.004	13.	6.99	0.
6/30/2015	0.11	0.	0.	0.	0.	0.	0.004	12.	6.96	0.
9/30/2015	0.11	0.	0.	0.	0.	0.	0.006	11.	6.94	0.
12/31/2015	0.11	0.	0.	0.	0.	0.	0.005	12.	7.01	0.
Maximum	0.21	0.	0.	0.014	0.002	0.007	0.01	15.	7.46	0.2
Median	0.11	0.	0.	0.001	0.	0.	0.004	11.	6.955	0.

ATTACHMENT C – $CBOD_5$ AND TSS MASS LIMIT CALCULATIONS

Concentration limits for $CBOD_5$ and TSS:

	Monthly Average	Weekly Average	Daily Maximum
$CBOD_5$	25 mg/l	40 mg/l	45 mg/l
TSS	30 mg/l	45 mg/l	50 mg/l

Plant Design Flow = 11.5 mgd = 11,500,000 g/d

Average Monthly $CBOD_5$ Mass Limit:

(25 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **2,400 lb/d**

Average Weekly $CBOD_5$ Mass Limit:

(40 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **3,840 lb/d**

Maximum Daily $CBOD_5$ Mass Limit:

(45 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **4,320 lb/d**

Average Monthly TSS Mass Limit:

(30 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **2,880 lb/d**

Average Weekly TSS Mass Limit:

(45 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **4,320 lb/d**

Maximum Daily TSS Mass Limit:

(50 mg/l)(11,500,000 g/d)(1 gram/1000 mg)(1 lb/ 454 gram)(3.785 l/g) = **4,800 lb/d**

ATTACHMENT D – 7Q10, HARMONIC MEAN FLOW AND DILUTION FACTOR CALCULATIONS

7Q10 Flow:

USGS Gage No. 01081500 on the Merrimack River at Franklin Junction, NH
Drainage Area = 1507 mi^2
7Q10 Flow (Based upon data from 1943 – 2014) = 492 cfs

7Q10 Flow from USGS Gage to the plant outfall (Based upon Dingman Equation) = 0.34 cfs

7Q10 Flow Just Upstream of the plant outfall = 492 + 0.341 = 492.34 cfs

7Q10 Dilution Factor:

$$\frac{Q_{001} + (Q_{Plant} \times 1.547)}{(Q_{Plant} \times 1.547)} \times 0.9$$

where:

Q_{001} = 7Q10 flow of the Merrimack River just upstream of Outfall 001 = 492.34 cfs
Q_{Plant} = Design flow of the treatment plant = 11.5 mgd
1.547 = Factor to convert mgd to cfs
0.9 = Factor to reserve 10% of the receiving water assimilative capacity

$$\frac{(492.34) + (11.5 \times 1.547)}{(11.5 \times 1.547)} \times 0.9 = \mathbf{25.8}$$

Harmonic Mean Flow:

USGS Gage No. 01081500 on the Merrimack River at Franklin Junction, NH
Drainage Area = 1507 mi^2
Harmonic Mean Flow (Based upon data from 1943 – 2014) = 1560 cfs
Intervening drainage area from USGS Gage to plant outfall = 13.7 mi^2
Harmonic Mean Flow upstream of plant outfall = (1560)(1507 + 13.7)/1507 = **1574 cfs**

Harmonic Mean Flow Dilution Factor:

$$\frac{Q_{HMF} + (Q_{Plant} \times 1.547)}{(Q_{Plant} \times 1.547)} \times 0.9$$

where:

Q_{HMF} = Harmonic mean flow of the Merrimack River just upstream of Outfall 001 = 1574 cfs

Q_{Plant} = Design flow of the treatment plant = 11.5 mgd
1.547 = Factor to convert mgd to cfs
0.9 = Factor to reserve 10% of the receiving water assimilative capacity

$$\frac{(1574) + (11.5 \times 1.547)}{(11.5 \times 1.547)} \times 0.9 = \mathbf{80.5}$$

ATTACHMENT E – AMMONIA REASONABLE POTENTIAL CALCULATIONS

Acute Criteria and Limit:

Salmonids present:

$$CMC = \frac{0.275}{1 + 10^{7.204 - pH}} + \frac{39.0}{1 + 10^{pH - 7.204}}$$

Receiving water pH = 7.3 (from toxicity tests)

$$CMC = \frac{0.275}{1 + 10^{7.204 - 7.3}} + \frac{39.0}{1 + 10^{7.3 - 7.204}} = 0.15 + 17.35 = 17.5 \text{ mg/l}$$

Dilution Factor = 25.8

(17.5)(25.8) = 451.5 mg/l => acute threshold

Highest discharge concentration = 30.1 mg/l => No limit necessary

Summer Chronic Criteria and Limit:

Early life stages present:

$$CCC = [(0.0577/1 + 10^{7.688 - pH}) + (2.487/1 + 10^{pH - 7.688})] \times Min(2.85, 1.45 \times 10^{0.028 \times (25 - T)})$$

Use summer time temperature of 25ºC

$$CCC = [(0.0577/1 + 10^{7.688 - 7.3}) + (2.487/1 + 10^{7.3 - 7.688})] \times Min(2.85, 1.45 \times 10^{0.028 \times (25 - 25)})$$

$$CCC = [\ 0.017 + 1.76] \times 1.45$$

CCC = 2.58 mg/l

Dilution Factor = 25.8

(2.58)(25.8) = 66.6 mg/l => Summer chronic threshold

Highest discharge concentration = 30.1 mg/l => No limit necessary

Winter Chronic Criteria and Limit:

Early life stages present:

$$CCC = [(0.0577/1 + 10^{7.688 - pH}) + (2.487/1 + 10^{pH - 7.688})] \times Min(2.85, 1.45 \times 10^{0.028 \times (25 - T)})$$

Use summer time temperature of 10°C

$$CCC = [(0.0577/1 + 10^{7.688 - 7.3}) + (2.487/1 + 10^{7.3 - 7.688})] \times Min(2.85, 1.45 \times 10^{0.028 \times (25 - 10)})$$

$$CCC = [\ 0.017 + 1.76] \times 2.85$$

$$CCC = 5.08 \text{ mg/l}$$

Dilution Factor = 25.8

(5.06)(25.8) = 130.5 mg/l => Winter chronic threshold

Highest discharge concentration = 30.1 mg/l => No limit necessary

ATTACHMENT F – STATISTICAL APPROACH FOR EFFLUENT DATA (N ≥ 10)

EPA bases its determination of "reasonable potential" on a characterization of the upper bound of expected effluent concentrations based on a statistical analysis of the available monitoring data. As noted in the *Technical Support Document for Water Quality Based Toxics Control* (EPA 1991) ("TSD"), "[a]ll monitoring data, including results for concentrations of individual chemicals, have some degree of uncertainty associated with them. The more limited the amount of test data available, the larger the uncertainty." Thus with a limited data set, the maximum concentration that has been found in the samples may not reflect the full range of effluent concentration.

To account for this, EPA has developed a statistical approach to characterizing effluent variability when the monitoring dataset includes 10 or more samples.[4] As "experience has shown that daily pollutant discharges are generally lognormally distributed," *TSD* at App. E, EPA uses a lognormal distribution to model the shape of the observed data, unless analysis indicates a different distributional model provides a better fit to the data. The model parameters (mean and variance) are derived from the monitoring data. The model parameter μ is the mean of the natural logs of the monitoring data values, while σ is the standard deviation of the natural logs of the monitoring data values.

The lognormal distribution generally provides a good fit to environmental data because it is bounded on the lower end (i.e. you cannot have pollutant concentrations less than zero) and is positively skewed. It also has the practical benefit that if an original lognormal data set X is logarithmically transformed (i.e. $Y = \ln[X]$) the resulting variable Y will be normally distributed. Then the upper percentile expected values of X can be calculated using the z-score of the standardized normal distribution (i.e. the normal distribution with mean = 0 and variance = 1), a common and relatively simple statistical calculation. The p^{th} percentile of X is estimated by

$$X_p = \exp(\mu_y + z_p \times \sigma_y),$$

where μ_y = mean of Y
σ_y = standard deviation of Y
$Y = \ln[X]$
z_p = the z-score for percentile "p"

For the 95^{th} percentile, $z_{95} = 1.645$, so that

$$X_{95} = \exp(\mu_y + 1.645 \times \sigma_y)$$

The 95th percentile value is used to determine whether a discharge has a reasonable potential to cause or contribute to an exceedance of a water quality standard. The combination of the upper bound effluent concentration with dilution in the receiving water is calculated to determine whether the water quality criteria will be exceeded.

Datasets including non-detect values

The *TSD* also includes a procedure for determine such percentiles when the dataset includes non-detect results, based on a delta-lognormal distribution. In the delta-lognormal procedures, non-detect values

4 A different statistical approach is applied where the monitoring data set includes less than 10 samples.

are weighted in proportion to their occurrence in the data. The values above the detection limit are assumed to be lognormally distributed values.

The statistical derivation of the delta-lognormal upper bounds is quite complex and is set forth in the TSD at Appendix E. Calculation of the 95th percentile of the distribution, however, involves a relatively straightforward adjustment of the equations given above for the lognormal distribution, as follows.

For the delta-lognormal, the pth percentile of X, referred to here as X_p*, is given by

$$X_p^* = \exp(\mu_y^* + z_p^* \times \sigma_y^*),$$

where μ_y*= mean of Y values for data points above the detection limit;
σ_y*= standard deviation of Y for data points above the detection limit;
Y = ln[X*];
X*= monitoring data above detection limit; and
z_p* = an adjusted z score that is given by the equation:

$$z_p^* = \text{z-score}[(p - \delta)/(1 - \delta)]$$

where δ is the proportion of non-detects in the monitoring dataset.

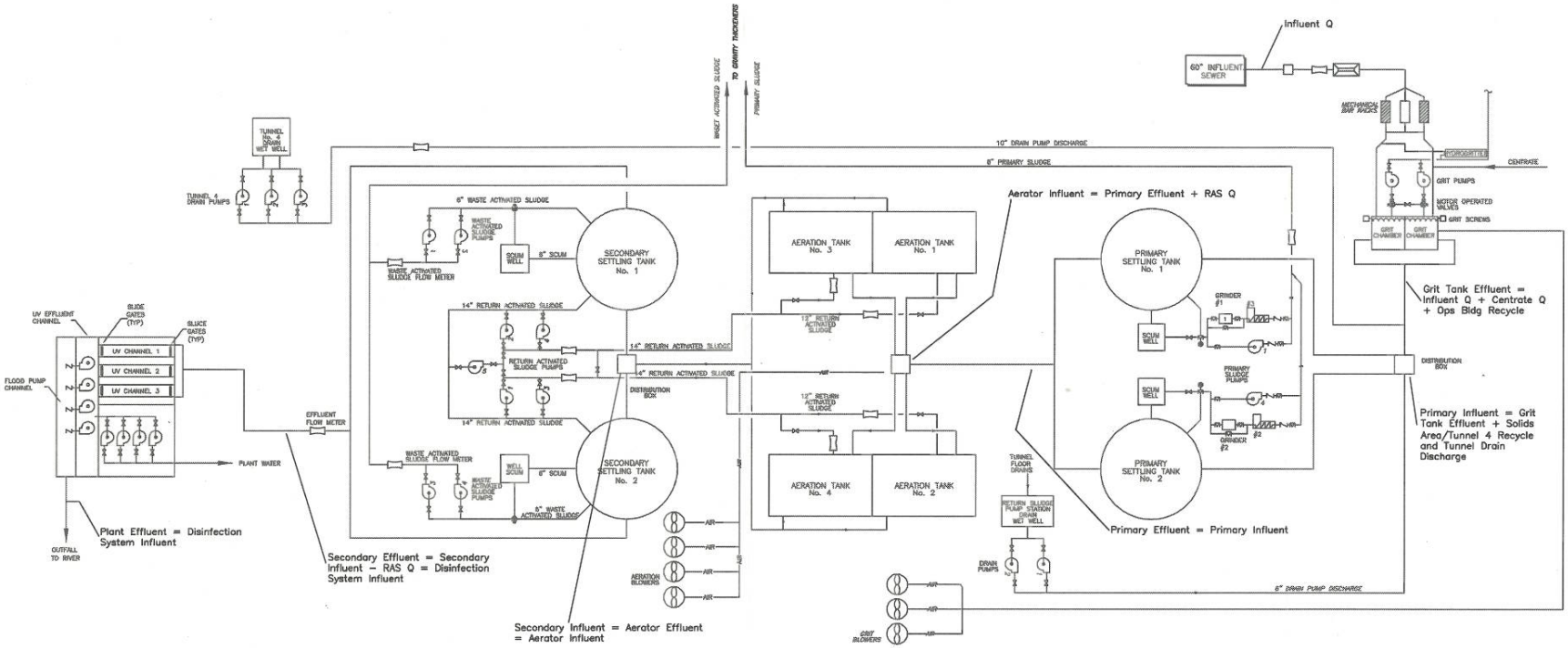
k = total number of dataset
r = number of non-detect values in the dataset
δ = r/k

For the 95th percentile, this takes the form of z_p* = z-score[(.95 – δ)/(1 - δ)]. The resulting values of z_p* for various values of δ is set forth in the table below; the calculation is easily performed in excel or other spreadsheet programs.

Example calculations of z_p* for 95th percentile

δ	(0.95 - δ)/ (1 - δ)	z_p*
0	0.95	1.645
0.1	0.94	1.593
0.3	0.93	1.465
0.5	0.90	1.282
0.7	0.83	0.967

ATTACHMENT G – WINNIPESAUKEE WWTP FLOW DIAGRAM



SEPTEMBER 28, 2016

RESPONSE TO COMMENTS
REISSUANCE OF NPDES PERMIT NO. NH0100960
WINNIPESAUKEE RIVER BASIN PROGRAM WASTEWATER TREATMENT FACILITY
FRANKLIN, NEW HAMPSHIRE

In accordance with the provisions of 40 C.F.R. §124.17, this document presents the U.S. Environmental Protection Agency's (EPA or Region 1) responses to comments received on the draft National Pollutant Discharge Elimination System (NPDES) Permit, NH0100960. The responses to comments explain and support the EPA determinations that form the basis of the final permit. From July 13, 2016 through August 11, 2016, Region 1 of the EPA and the New Hampshire Department of Environmental Services (NHDES) (together, the "Agencies") solicited public comments on a draft NPDES permit to be reissued to the Winnipesaukee River Basin Program Wastewater Treatment Plant (the "permittee").

Region 1 and NHDES received written comments from Sharon A. McMillin representing the Winnipesaukee River Basin Program (permittee) on August 10, 2016, from Brian J. Sullivan representing the City of Franklin on August 11, 2016, and from Christopher L. Boldt representing the Town of Sanbornton on August 9, 2016. Additionally, Christopher L. Boldt, representing the Town of Sanbornton, submitted supplemental comments on August 26, 2016, after the close of the public comment period. Below are the comments received and EPA's responses to those comments with descriptions of any changes made to the public-noticed permit as a result of those comments.

Copies of the final permit may be obtained by writing or calling Michael Cobb, U.S. EPA, 5 Post Office Square, Suite 100 (Mail Code: OEP06-1), Boston, Massachusetts 02109-3912; Telephone (617) 918-1369. Copies may also be obtained from the EPA Region 1 website at http://www.epa.gov/region1/npdes/index.html.

Changes from Draft Permit to Final Permit

1. The monitoring location has been clarified in Part I.A.1. See Response A.2.
2. The total residual chlorine limit and associated references in footnotes have been removed. See Responses A.2 and A.10.
3. The DAS Lakes Region Facility has been added as a co-permittee. Relevant schedules of compliance have been added to Part I.C. See Responses A.3 and B.
4. The Town of Sanbornton has been added as a co-permittee. Relevant schedules of compliance have been added to Part I.C. See Responses A.4 and B.
5. Footnote 1 in Part I.A.1 has been removed. See Response A.6. Subsequent footnotes have been renumbered.
6. The total phosphorus monitoring frequency has been reduced to twice per month between April 1 and October 31. See Response A.8.

7. The pH sample type has been changed to "continuous recorder." See Response A.9.
8. E. coli results shall be reported as MPN/100ml. See Response A.11.
9. The first line of the footnote for $CBOD_5$ and TSS has been modified to say "Effluent sampling frequency shall be 2/week." See Response A.12.
10. In the footnote regarding WET test submittals, "postmarked" has been replaced with "submitted". See Response A.13.
11. Language has been updated in Part I.C.6 to indicate that the financial analysis of the Annual Report can be based on either the State's fiscal year or the calendar year. See Response A.15.
12. Language has been updated in Part I.E.1.b to reflect the NH Rule Making process in the timeline. See Response A.16.
13. Language has been updated in Part I.E.2.e to reflect the NH Rule Making process in the timeline. See Response A.17.

Comments from Sharon A. McMillin representing the Winnipesaukee River Basin Program (permittee)

Comment A.1

Requested change – spelling correction:
Please correct the addressee's name for the WRBP to Sharon A. McMillin.

Response A.1

EPA has corrected the addressee's name in our records.

Comment A.2

Requested change –Reference Page 1 of 20 Part I.A.1. and Fact Sheet Page 3 of 44 and 11 of 44:
Requested changes:
Add effluent sampling location description and eliminate references to discontinued chlorine disinfection.

Justification:
Per conversations with EPA and NHDES staff during a pre-renewal site visit on 4/12/16, it was agreed that the effluent sampling can be performed at either the current location at the outfall flume or from inside the old Plant Water Building at a turbulent location in the effluent channel.

The WRBP now uses only UV Disinfection instead of our previous method of disinfection which used UV Disinfection augmented during high flow conditions with chlorine dosing that would be adequately mixed just prior to the outfall flume. With the change to 100% UV disinfection at some distance from the outfall, a representative

effluent sample can be obtained from the effluent channel prior to the actual outfall flume location where sampling is currently performed. An appropriate sampling location was determined by EPA and NHDES staff to be inside the old Plant Water Building which is partially situated over the effluent channel. Sampling from inside the building through the floor, instead of outside in the elements, provides WRBP staff with a safer environment while still providing a representative effluent sample. EPA correspondence previously specified only the outfall flume location, but disinfection processes have changed and EPA agreed to include the alternative location discussed with WRBP staff in the renewed permit.

Proposed Additional Language (in italics) - Page 1 of 20 Part I.A.1.:
"…Samples…shall be taken" *after all treatment processes and* "at a location that provides a representative analysis of the effluent." *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.*

Proposed Deleted Language (as strike-through) - Fact Sheet Page 3 of 44:
"The above named applicant has applied……~~Backup disinfection is provided by chlorination".~~

Delete Fact Sheet page 11 of 44 item E.2. Total Chlorine Residual in its entirety.

Response A.2

EPA agrees with specifying this monitoring location as it was determined to provide WRBP staff with a safer environment while still providing a representative effluent sample. Hence, the permit language in Part I.A.1 of the permit has been modified as suggested.

EPA also notes here that backup disinfection is no longer provided by chlorination. Although the Fact Sheet supports the draft permit and cannot be modified once the draft permit goes out for public notice, this response to comments document is adequate to update the record for future permitting actions. The total residual chlorine limit has also been removed from the final permit. Also see Response A.10 below.

Comment A.3

Requested change – Reference Page 1 of 20, Attachment A, Fact Sheet Page 1 of 44:
Requested change:
Please add the NH Department of Administrative Services Lakes Region Facility (DAS-Lakes Region Facility aka State School) as a co-permittee.

Lakes Region Facility
c/o Department of Administrative Services (DAS)
129 Pleasant St.
Concord, NH 03301

Justification:
This entity is treated in the same manner as other members and co-permittees of the WRBP (fees, support, funding, etc.), and a representative from DAS sits on the WRBP Advisory Board and exercises full voting rights. The DAS, like other members, is responsible for non-WRBP-maintained sewer infrastructure within their property through appropriate policies and procedures for permitting, reporting, enforcement, inspections, maintenance, etc. The DAS Lakes Region Facility contributes significant I/I to the WRBP collection system and appropriate maintenance and repair of their collection system is necessary.

Response A.3

EPA agrees that the DAS Lakes Region Facility should be included as a co-permittee in the final permit. In EPA's response to comments from the 2009 WRBP permit, EPA decided not to include this Facility as a co-permittee at that time but noted that this decision would be reconsidered if there were any problems. As noted in the comment above as well as in more detailed correspondence with the WRBP staff, the DAS facility is contributing significant I/I into the system despite limited use of the buildings on-site. In order to address the I/I concerns and to ensure proper maintenance of the system in the future, the Lakes Region Facility has been added as a co-permittee and the applicable requirements and schedules of compliance can be found in section I.B, I.C and I.D of the final permit.

EPA is also aware that NH DAS has the intention to sell this property in the near future. If the property is sold to a private entity, the co-permittee requirements would not be applicable to that private entity as they are only applicable to publicly-owned treatment works (POTWs) including publicly-owned sewer collection systems. However, if the property is sold to another public entity the co-permittee requirements would remain in effect for the new owner. For more specific details regarding transfer of the permit if the property is sold, see Part II.D.1.c of the final permit and 40 CFR Part 122.61.

Comment A.4

Requested change – Reference Page 1 of 20, Attachment A, Fact Sheet Page 1 of 44:
Requested change:
Please add the Town of Sanbornton as a co-permittee.

Town of Sanbornton
P.O. Box 124
Sanbornton, NH 03269

Justification:
This Town is treated in the same manner as other members and co-permittees of the WRBP (fees, support, funding, etc.), and a representative from this town sits on the

WRBP Advisory Board and exercises full voting rights. The Town, like other satellite members, should be responsible for non-WRBP-maintained sewer infrastructure within their community whether directly or indirectly through appropriate sewer use ordinances for permitting, reporting, enforcement, inspections, etc. The Town of Sanbornton contributes significant I/I to the WRBP collection system and appropriate maintenance and repair of the collection system within their jurisdiction is necessary.

Response A.4

EPA agrees that the Town of Sanbornton should be included as a co-permittee in the final permit. Accordingly, the Town has been added and the applicable requirements and schedules of compliance can be found in sections I.B, I.C and I.D of the final permit. EPA is also aware that much, if not all, of the existing sewer collection system within the Town is either private or owned by the State. Hence, specific co-permittee requirements related to mapping and developing I/I control plans and O&M plans for the portion owned by the Town may be quite limited at this time. Nevertheless, EPA has chosen to add the Town as a co-permittee in anticipation of future growth and development which may result in Town ownership of portions of the sewer collection system.

Comment A.5

Requested clarification - Reference Page 1 of 20:
"Each co-permittee is subject to the requirements of these Parts only for those portions of the collection system it **owns and operates."** (Emphasis added)

Requested Clarification:
Please clarify the roles and responsibilities of co-permittees as it relates to their appropriate exercise of controls over private collection systems via sewer use ordinances or other jurisdictional authority.

Justification:
There are privately owned/operated sewer systems that range from industrial locations (largely covered by IPP portions of the permit), mobile home parks, private sewer extensions serving more than one property, and commercial and residential subdivision developments that may tie into a city/town/district sewer system or directly to state-owned interceptors. The permit does not address these non-WRBP or non-co-permittee owned and operated entities, leaving their status open to interpretation. Examples noted above include the DAS Lakes Region Facility sewer system where a different state agency owns and operates their collector system and the Town of Sanbornton which claims that there are no municipally owned or maintained sewers in their community.

Response A.5

As described in section I.C of the draft and final permit, the requirements for permittes and co-permittees and based on the portion of the sewer system which

they own. While each municipality may exercise authority over private collection systems via sewer use ordinances, pretreatment programs or other means, the details of such controls are not governed by NPDES permits and are therefore beyond the scope of this permit.

Comment A.6

Requested change – Reference Page 2-4 of 20 Part 1A.1 and Page 5 of 20 Footnote 1

Requested change:

Delete footnote 1 in its entirety. Delete footnote 1 references on column 2 of the Effluent Limitations and Monitoring Requirements, Whole Effluent Toxicity-Percent, and Ambient Characteristics tables.

Justification:

The reporting of average monthly concentrations of pollutants below the detection limit at one-half of the laboratory detection limit value conflicts with the current EPA Region 1 publication NPDES Permit Program Instructions for the Discharge Monitoring Report Forms (DMRs) Report Year 2010, Revised Final: January 2010 (excerpted below).

> 6.a. Sample Measurements Below Minimum Levels
> …If all of the Sample Measurement Values for the reporting period for a specific parameter are below the minimum level(s) specified in your permit, then report "0" on the DMR. If some of the Sample Measurement Values are below the minimum level, while other Sample Measurement Values that are part of the computation are above the minimum level specified in your Permit, substitute a "0" for the non-detectable (ND) results prior to averaging….
> 6.c. Other acceptable codes
> …If the laboratory reports a trace amount, then the laboratory detection limit for the analytical procedure used to determine a trace amount preceded by the "<" sign shall be reported on the DMR.

There is also no scientific or mathematical foundation for assigning an arbitrary, discrete value to a range properly reported as less than the minimum levels specified in the permit or less than the laboratory detection limit; such reporting conflicts with using "0" or "<" as required in the DMR reporting instructions. Averages calculated from erroneous data values will be erroneous. In this case, the average values will be inflated by reporting a value instead of using appropriate statistical methods for averaging real values and omitting or zeroing non-detected values.

In addition, there is quarterly, not monthly, testing or reporting for the parameters included on the Whole Effluent Toxicity or associated Ambient Characteristics tables. Therefore, the average monthly concentration (footnote 1) is not an appropriate reference for column 2 on these two tables and should be removed. It appears that EPA's intent was not to report average monthly or average weekly information for parameters listed in these tables since dashes (- - -) are entered; indicating that the footnote 1 reference in column 2 may be a simple typo on these 2 tables and max daily values reported on the

quarterly tests are the values typically reported – using a "0" entry on the DMR if below detection limits.

Response A.6

EPA agrees that the referenced footnote does not apply to any specific parameters in this permit and should not be included. Hence, the footnote has been removed in its entirety from the final permit.

Comment A.7

Requested clarification – Reference Page 2 of 20 Part 1A.1 and Page 5 of 20 Footnote 2
Table cites Effluent Flow Monthly Average permit limit of 11.5 mgd and footnote 2 describes reporting the monthly average results as a rolling average.

Requested Clarification:
There is a new requirement for reporting annual average flow as rolling average of monthly average flows with a new permit limit of 11.5 mgd (the WRBP Franklin WWTP design flow). Please provide justification and/or reasons for this new reporting requirement and permit limit and how the rolling average flow data will be used in the future.

Response A.7

As described in section IV.C of the Fact Sheet, the effluent flow limit is necessary for a number of reasons. These reasons include determining the necessity for water quality based effluent limitations in the permit based on reasonable potential analyses and available dilution, ensuring proper operation and maintenance of all facilities and systems of treatment and control, and to minimize or prevent infiltration and inflow (I/I) that may result in unauthorized discharges and compromise proper operation and maintenance of the facility. Furthermore, the extraneous flow due to significant I/I greatly increases the potential for sanitary sewer overflows (SSOs) in separate systems. In addition to ensuring these requirements of the permit are met, the effluent flow data will be used to trigger necessary facilities planning growth if flows increase (see Part I.A.5 of final permit). As indicated in the footnote, for compliance purposes, the effluent flow limit is the annual rolling average calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.

Comment A.8

Requested change – Reference Page 2 of 20 Part 1A.1.
Table cites 1/Week measurement frequency for Total Phosphorus.

Requested change:
Reduce the sampling and testing frequency; preferable to 1/month between April 1 and October 31st (8 events/year).

Justification:
This requested change reflects the previous NPDES permit requirements for 1/month reporting of Total Phosphorus values. As documented by EPA in the Fact Sheet, the WRBP Franklin WWTP would not have violated the new permit limit of 208 lb/day over the five year reporting period. EPA used this data to calculate the permit limit in effect between April 1 and October 31st. Therefore, it is reasonable to assume that continued monthly reporting is sufficient to monitor this parameter for compliance with permit levels. In additional, additional labor, time, and laboratory costs will be incurred to increase the sampling and testing frequency to 1/week (from 12 events/year to 28 events/year).

Response A.8

EPA agrees with this request to reduce total phosphorus (TP) monitoring frequency based on historical TP levels below the new permit limit and has adjusted the monitoring frequency to twice per month between April 1 and October 31. This is consistent with minimum monitoring frequencies in other NH permits containing TP limits.

Comment A.9

Requested change – Reference Page 2 of 20 Part 1A.1.
Table cites pH Range Sample Type as Grab at a frequency of 1/Day.

Requested change:
Please change pH Range Sample Type cited to "Continuous Recorder". NETDMR reporting will continue as minimum and maximum for the day based upon the recorder information. In the event of instrumentation failure, the WRBP will report a single daily grab sample result (as has been acceptable to EPA in the past) until the instrument has been repaired or replaced.

Justification:
This change reflects previous NPDES permit requirements for continuous instead of grab sampling and is consistent with currently installed instrumentation, reporting, and established practices. The WRBP has used electronic pH monitoring since EPA's authorization to do so in 2002.

Response A.9

EPA agrees with this request and the sample type has been updated in the final permit.

Comment A.10

Requested change – Reference Page 2 of 20 Part 1A.1 and Page 5 of 20 Footnotes 6 and 8

Requested change:
Delete requirement for total residual chlorine (TRC) sampling and testing in Effluent Limitations and Monitoring Requirements table, delete footnote 8, and deleted reference to TRC monitoring in Footnote 6.

Justification:
Since chlorine disinfection is no longer utilized at the WRBP Franklin WWTP and the chlorine contact tanks have been decommissioned, delete the requirement for total residual chlorine (TRC) sampling and testing.

Response A.10

EPA agrees with this request and has removed all noted references to TRC in the final permit.

Comment A.11

Requested change – Reference Page 2 of 20 Part 1A.1
Table cites *Escherichia coli* as Colonies/100ml.

Requested change:
Report the E. coli results as MPN/100ml.

Justification:
The approved test method currently utilized by the WRBP Franklin WWTP quantifies E. coli as MPN/100ml. The WRBP would then report average monthly values as the geometric mean on the updated NetDMR in these units.

Response A.11

EPA agrees with this request and the final permit requires E. coli to be reported as MPN/100ml.

Comment A.12

Requested change – Reference Page 5 of 20 Footnote 3
Requested change:
Delete "~~Effluent sampling frequency.~~" This footnote only applies to influent sampling, so this added sentence is confusing and inaccurate.

Response A.12

EPA disagrees with this comment. The footnote is intended to indicate that effluent sampling frequency for $CBOD_5$ and TSS shall be 2/Week, as noted in the table, but influent sampling frequency shall be 2/month and reported as average monthly values. For clarification, the first line of the footnote in the final permit has been modified to say "Effluent sampling frequency shall be twice per week."

Comment A.13

Requested change – Reference Page 6 of 20 Footnote 10
Requested change:
Replace "postmarked" with "submitted". These reports are submitted electronically as part of the NETDMR and so are not postmarked via standard mailing.

Response A.13

EPA agrees with this comment and the final permit has been updated accordingly.

Comment A.14

Requested clarification – Reference Page 8 of 20 Part C.1
The language of C.1 Maintenance Staff indicates that adequate "staff" is provided to carry out the operation, maintenance, repair and testing functions…

Requested responses:
Please confirm that this "staff" can include appropriate contractors and service personnel, as required, to ensure compliance with the terms and conditions of this permit. Note that this use of contractors or other service personnel was affirmed as acceptable to the EPA in the previous permit renewal in response to comment #7, but no change was made to the permit language.

Proposed Alternate Language (in italics):
"The permittee and co-permittees shall provide" *adequate personnel including appropriate contractors* "to carry out the operation, maintenance, repair and testing functions, as required, to ensure compliance with the terms and conditions of this permit."

Response A.14

EPA agrees that adequate staff may include contractors and other service personnel and is noted here. No change in the final permit is necessary.

Comment A.15

Requested change – Reference Page 10 of 20 Part C.6 and 6.c.
EPA previously agreed (3/9/2012 email from Joy Hilton, EPA) that financial information provided by the WRBP in the annual report could be based on either the State's fiscal

year (July 1st to June 30th of the subsequent year) or a calendar year. Several co-permitees also use a fiscal year that is not the calendar year. Reporting non-fiscal-year financial information adds an unnecessary burden to the permitee and co-permittes that do not use a calendar year for other financial information.

Proposed additional language (in italics):
6. …"The permittee…shall submit a summary report of activities…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.*

6.c. "Expenditures for any collection system maintenance activities conducted and corrective actions taken during the previous" *calendar or fiscal* "year."

Response A.15

EPA agrees with this request and has updated the language in the final permit accordingly.

Comment A.16

Requested change – Reference Page 11 of 20 Part E.1b.
Reference cites in part, "Within 90 days of the effective date of the permit, the permittee shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits....Should the evaluation reveal the need to revise local limits, the permittees shall complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval."

Requested change:
Please amend the timeline requirements to reflect that changes in local limits proposed by the WRBP and approved by EPA are subject to the New Hampshire Administrative Rule Making process which typically can take up to six months to finalize.

Justification:
Implementation timeline should reflect the NH Rule Making process. Note that appropriate changes were incorporated in to the previous NPDES permit language as indicated below.

Proposed Alternative/Additional Language (in italics):
"…Within 90 days of the effective date of the permit, the permittees shall prepare and submit a written technical evaluation to the EPA analyzing the need to revise local limits" *under WRBP jurisdiction*....Should the evaluation reveal the need to revise local limits, the permittees shall" *propose revisions* "within 120 days of notification by EPA and submit the revisions to EPA for approval. *Following EPA approval, permittee shall submit the proposed changes to the New Hampshire Legislature for approval."*…

Response A.16

EPA agrees with this request and has updated the language in the final permit accordingly.

Comment A.17

Requested change – Reference Page 12 of 20 Part E.2e.
Reference cites in part, "The permittee must modify its pretreatment program to conform to all changes in the Federal Register….The permittee will implement these proposed changes pending EPA's approval under 40 CFR 403.18…"

Requested change:
See comment 15 above. Please amend the requirements to reflect that modified industrial pretreatment program changes proposed by the WRBP are subject to the New Hampshire Administrative Rule making process which typically can take up to six months to finalize.

Justification:
Implementation timeline should reflect the NH Administrative Rule Making process.

Proposed Alternative/Deleted/Additional Language:
"The permittee must modify its pretreatment program to conform to all changes in the Federal Register….~~The permittee will implement these proposed changes pending EPA's approval under 40 CFR 403.1.~~" *Following EPA approval of proposed modifications, permittee shall submit the proposed changes to the New Hampshire Legislature for approval.*

Response A.17

EPA agrees with this request and has revised the final sentience of Part E.2.e in the final permit accordingly.

Comments from Brian J. Sullivan representing the City of Franklin

Comment B

The City of Franklin, NH is a co-permittee to the proposed draft NPDES Permit # NH0100960.

As Chairman of the WRBP Advisory Board and the City of Franklin, New Hampshire Advisory Board Representative, I am in total agreement and in support of the points raised in the August 9, 2016 comments sent to you from Sharon A. McMillan, PhD, Administrator of the NHDES, WRBP Program.

I am especially concerned about one member community, Sanbornton, NH and the State owned facility under the control of the NH Department of Administrative Services

Complex in the City of Laconia. Both government entities are not listed as co-permittees and receive the same benefit as all the other member communities. Each has held the same voting privileges as the rest of us; both contribute Inflow and Infiltration from development that has occurred beyond the state controlled interceptors and have no mechanism in place to deal with sanitary sewer expansion.

Neither entity has an updated Sewer Ordinance; Operations and Maintenance Plan; System Mapping and more importantly the staff or a plan in place to deal with further growth, system expansion to accommodate future tie-ins into the WRBP System or the ability to deal with emergency situations that may arise.

It is inevitable that future growth and extension of “private” sewer lines will continue and each agency needs to be structured in a way that holds them to the same standard as our other member communities. Thus the need to be named as co-permittees!

The Town of Sanbornton needs to establish a Sewer Commission and the Department of Administrative Services could possibly strike up a deal with another member community so each can fulfill the requirements of the permit as the rest of us have willingly accomplished. I could elaborate more on these thoughts and am willing to discuss them with you at any time should you need a different perspective on the future of WRBP.

In closing, I would like to mention that a lot of hard work has been accomplished over the last five years by the NHDES/WRBP Staff and the co-permittees. USEPA’s concurrence with my recommendations will continue to enhance the program looking towards the future.

Response B

EPA agrees with this comment and has included both the Town of Sanbornton and the Lakes Region Facility as co-permittees in the final permit. See Responses A.3 and A.4. As mentioned in Response A.4, EPA is also aware that much, if not all, of the existing sewer collection system within the Town of Sanbornton is either private or owned by the State. Nevertheless, EPA has chosen to add the Town as a co-permittee in anticipation of future growth and development which may result in Town ownership of portions of the sewer collection system.

Comments from Christopher L. Boldt representing the Town of Sanbornton

Comment C

I am writing you in my capacity as Town Attorney for the Town of Sanbornton, NH ("the Town").

For several decades, the Town has participated in WRBP as a "member" but not as a “Co-Permittee" of the Permit. Late last week, as the former Town Administrator Charlie

Smith was leaving his position for his last day, the Town learned that Sharon A. McMillin, PhD, Administrator of WRBP, may be suggesting that the Town become a Co-Permittee of the Permit.

The Town cannot at this time agree to such a change of the status quo. Such a change would at the very least require a public hearing and vote by the Board of Selectmen with full explanation of the reasons for that change and the financial ramifications to the Town; and if there were any additional financial obligations to the Town by such a change, then the change would have to be approved by the voters at the Town's Annual Meeting in March. Since such protocols have not been requested by WRBP nor have they occurred, the Town respectfully requests that there be no change to its current status as a "member" of WRBP — not a "Co-Permittee" of the Permit — at this time.

Response C

For the reasons indicated in Response A.4 above, EPA has decided to include the Town of Sanbornton as a co-permittee in the final permit. The requirements and schedule are listed in sections I.B, I.C and I.D of the final permit. EPA notes that the schedule is flexible enough such that the Town has adequate time to approve any financial obligations in the Town's annual meeting in March 2017.

Supplemental Comments

As noted above, Christopher L. Boldt, representing the Town of Sanbornton, also submitted supplemental comments dated August 26, 2016, after the close of the public comment period. These supplemental comments consist of a 2-page letter and 2 attachments (a Memorandum of Understanding between NHDES and the WRBP and EPA's response to comments to the 2009 WRBP permit reissuance). The letter references the MOU as support for maintaining the status quo of Sanbornton as a member of the WRBP board and not a co-permittee. The letter also references EPA's decision not to include Sanbornton as a co-permittee in the 2009 WRBP permit reissuance. Although these comments are not reproduced here, EPA has reviewed them and they do not impact any determinations made in EPA's response to comments or in the final permit. See Responses A.4 and B above.