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 <u>et seq</u>.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, "26-53),

Massachusetts Water Resources Authority

is authorized to discharge from the facility located at:

Clinton Wastewater Treatment Plant 677 High Street Clinton, MA 01510

to receiving water named:

South Branch Nashua River (Class B Warm Water Fishery)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

The Town Clinton and the Lancaster Sewer District are co-permittees for Part D., Operation and Maintenance, which include conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part E., Unauthorized Discharges. The responsible Town Departments are:

Town of Clinton Department of Public Works 242 Church Street Clinton, MA 01510 Lancaster Sewer District P.O. Box 773 226 Main Street South Lancaster, MA 01561

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 (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on September 27, 2000.

This permit consists of Part I including effluent limitations and monitoring requirements, Part II including General Conditions and Definitions, Attachment A. <u>USEPA Region 1 Freshwater Acute Toxicity Test Procedure and Protocol, February 2011</u>; Attachment B. <u>USEPA Region 1 Freshwater Chronic Toxicity Test Procedure and Protocol, March 2013</u>; Attachment C. <u>Reassessment of Technically Based Industrial Discharge Limits</u>; Attachment D. <u>Industrial Pretreatment Program Annual Report</u>; and Attachment E. <u>Summary of Required Report Submittals</u>.

Signed this day of

Ken Moraff, Acting Director Office of Ecosystem Protection Environmental Protection Agency Boston, MA David Ferris, Director Massachusetts Wastewater Management Program Department of Environmental Protection Commonwealth of Massachusetts Boston,MA

* Pursuant to 40 CFR 124.15(b)(3), if no comments requesting a change to the draft permit are received, the permit will become effective upon the date of signature.

MWRA Clinton Wastewater Treatment Plant Partially Revised Draft Permit

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent to the South Branch of the Nashua River from outfall serial number 001. Such discharge shall be limited and monitored by the permittee as specified below.

<u>EFFLUENT</u> <u>CHARACTERISTIC</u>	EFFLUENT LIMITS						MONITORING REQUIREMENTS	
		Mass Limits		C	oncentration Lim	its		
PARAMETER	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	AVERAGE MONTHLY	AVERAGE WEEKLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE ³
FLOW ¹	***	***	***	Report MGD	***	Report MGD	CONTINUOUS	RECORDER
FLOW – Rolling Average ²	***	***	***	3.01 MGD	***	***	CONTINUOUS	RECORDER
BOD ₅ ⁴	500 lbs/Day	500 lbs/Day	Report	20 mg/l	20 mg/l	Report mg/l	3/WEEK	24-HOUR COMPOSITE ⁵
TSS^4	500 lbs/Day	500 lbs/Day	Report	20 mg/l	20 mg/l	Report mg/l	3/WEEK	24-HOUR COMPOSITE ⁵
pH RANGE ⁶		6.5 – 8.3 SU S	EE PERMIT PAC	GE 6 OF 15, PARA	AGRAPH I.A.3.		1/DAY	GRAB
DISSOLVED OXYGEN	***	***	***	6	5.0 mg/l minimur	n	2/DAY	GRAB
E. COLI ⁷	***	***	***	126 cfu/100 ml	***	409 cfu/100 ml	1/DAY	GRAB
TOTAL RESIDUAL CHLORINE ^{7, 8, 9}	***	***	***	17.6 µg/l	***	30.4 µg/l	2/DAY	GRAB
TOTAL PHOSPHORUS ^{10, 11, 12,} 13, 14								
(April 1- October 31) (November 1 – March 31)	3.8 lbs/Day 25.1 lbs/Day	*** ***	*** ***	150 μg/l 1000 μg/l	***	Report μg/l Report μg/l	3/WEEK 1/WEEK	24-HOUR COMPOSITE ⁵ 24-HOUR COMPOSITE ⁵

EFFLUENT	EFFLUEN	T LIMITS	MONITORING REQUIREMENT		
<u>CHARACTERISTIC</u>	AVERAGE MONTHLY	MAXIMUM DAILY	MEASUREMENT FREQUENCY	SAMPLE TYPE ³	
ORTHOPHOSPHORUS, DISSOLVED ^{13, 14} (November 1 – March 31)	Report µg/l	Report µg/l	2/WEEK	24-HOUR COMPOSITE ⁵	
TOTAL AMMONIA, as N (April 1 – April 30) (May 1 – May 31) (June 1 – October 31) (November 1 – March 31)	10 mg/l 5 mg/l 2 mg/l 10 mg/l	Report mg/l Report mg/l 3.0 mg/l 35.2 mg/l	1/WEEK 1/WEEK 3/WEEK 1/WEEK	24-HOUR COMPOSITE ⁵	
TOTAL ALUMINUM 14	Report µg/l	Report µg/l	2/WEEK	24-HOUR COMPOSITE ⁵	
TOTAL COPPER	9.5 μg/l	14.0 µg/l	1/WEEK	24-HOUR COMPOSITE ⁵	
WHOLE EFFLUENT TOXICITY ^{15, 16,} 17, 18, 19, 20 LC50 CHRONIC NOEC Hardness pH Ammonia Total Cadmium Total Chromium Total Lead Total Copper Total Zinc Total Nickel Total Aluminum	*** Report mg/l Report S.U. Report mg/l Report µg/l Report µg/l Report µg/l Report µg/l Report µg/l Report µg/l Report µg/l	>100% 62.5 *** *** *** *** *** *** *** *** *** *	4/YEAR	24-HOUR COMPOSITE	

Footnotes:

- 1. The monthly average and maximum daily flows for each month shall be reported. An attachment reporting total flow and precipitation for each date shall be included with the DMRs.
- 2. This is an annual average limit, 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.
- 3. Effluent samples shall be taken after appropriate treatment and prior to discharge to Outfall 001. All sampling shall be representative of the effluent that is discharged through Outfall 001 to the South Branch of the Nashua River. A routine sampling program shall be developed in which samples are taken at the same location, same time and same day(s) of every month. Any deviations from the routine sampling program shall be documented in correspondence appended to the applicable discharge monitoring report that is submitted to EPA. In addition, all samples shall be analyzed using the analytical methods found in 40 CFR §136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR §136.
- 4. Sampling required for influent and effluent.
- 5. A 24-hour composite sample will consist of at least twenty four (24) grab samples, flow proportional, taken for a consecutive 24 hour period (e.g. 0700 Monday 0700 Tuesday).
- 6. Required for State Certification.
- 7. *E. coli* and total residual chlorine limits and monitoring requirements are in effect year round. The average monthly limit for *E. coli* is expressed as the geometric mean. The samples for *E. coli* shall be taken at the same time as a sample for chlorine.
- 8. Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine or dechlorination dosing system that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection or interruptions or malfunctions of the dechlorination system that may have resulted in excessive levels of chlorine in the final effluent shall be reported with the monthly DMRs. The report shall include the date and time of the interruption or malfunction, the nature of the problem, the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred, and measures taken to prevent future occurrences.
- 9. For every day that more than two chlorine grab samples are analyzed on the final effluent, the monthly DMR shall include an attachment documenting the individual final effluent grab sample results for that day, the date and time of each sample, the analytical method, and a summary of any operational modifications implemented in response to the sample results. This requirement applies to all samples taken on the final effluent, including screening level and process control samples. All final effluent test results utilizing an EPA approved analytical method shall be used in the calculation and reporting of the monthly average and maximum daily discharge values submitted on the DMR.
- 10. For the first four years that this permit is in effect, the permittee shall achieve the following total phosphorus limitations from April 1st October 31st while working towards achieving compliance with the new 150 μg/L seasonal total phosphorus limitation (see Part I.B. of this permit, Schedule of

Compliance): 1,000 μ g/l average monthly, report maximum daily μ g/l, and report average monthly loading in pounds per day.

- 11. The 150 μg/l total phosphorus limit is a monthly average limit and applies for the period of April 1st -October 31st. In addition, the maximum daily value must be reported for each month.
- 12. The 1,000 µg/l limit is a monthly average limit and applies for the period of November 1st-March 31st. The monthly average and maximum daily values shall be reported on each month's discharge monitoring report. These permit limits may be modified, subject to public notice and comment, based upon revisions to the water quality standards, compliance with the requirements of a Total Maximum Daily Load (TMDL), or upon a demonstration that an alternative permit limit will achieve water quality standards and the goals of the Clean Water Act.
- 13. The maximum daily concentration reports for dissolved orthophosphate shall be values from the same day that the maximum daily total phosphorus concentration was measured.
- 14. The aluminum samples shall be collected concurrently with the phosphorus and orthophosphate samples.
- 15. The permittee shall conduct acute and chronic toxicity tests four (4) times per year using a single species, the daphnid, *Ceriodaphnia dubia*. Toxicity test samples shall be collected during the months of March, June, September and December. The test results shall be submitted by the last day of the month following the completion of the test. The results are due by April 30, July 31, October 31 and January 31, respectively. The tests must be performed in accordance with test procedures and protocols specified in Attachment A of this permit.
- 16. Each toxicity test report shall include a map or GPS coordinates of discharge location and receiving water sample location.
- 17. The LC50 is the concentration of effluent which causes mortality to 50% of the test organisms. Therefore, a 100% limit means that a sample of 100% effluent (no dilution) shall cause no more than a 50% mortality rate.
- 18. C-NOEC (chronic-no observed effect concentration) is defined as the highest concentration of toxicant or effluent to which organisms are exposed in a life cycle or partial life cycle test which causes no adverse effect on growth, survival, or reproduction at a specific time of observation as determined from hypothesis testing where the test results exhibit a linear-dose relationship. However, where the test results do not exhibit a linear dose-response relationship, the permittee must report the lowest concentration where there is no observable effect. The "62.5 or greater" limit is defined as a sample which is composed of 62.5% (or greater) effluent, the remainder being dilution water. This is a maximum daily limit.
- 19. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall either follow procedures outlined in Attachments A and B (Chronic and Acute Toxicity Test Procedures and Protocols) Section IV., DILUTION WATER in order to obtain an individual approval for use of an alternate dilution water, or the permittee shall follow the <u>Self-Implementing Alternative Dilution Water Guidance</u>, which may be used to obtain automatic approval of an alternate dilution water, including the appropriate species for use with that water. This guidance is found in Attachment G of *NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs)*, which may be found on the EPA Region I web site at http://www.epa.gov/Region1/enforcementandassistance/dmr.html. If this guidance is revoked, the

permittee shall revert to obtaining individual approval as outlined in Attachment A. Any modification or revocation to this guidance will be transmitted to the permittees. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in Attachment A.

20. For each whole effluent toxicity test the permittee shall report on the appropriate discharge monitoring report, (DMR), the concentrations of the hardness, pH, ammonia nitrogen as nitrogen, total recoverable aluminum, cadmium, copper, lead, nickel, and zinc found in the 100 percent effluent sample. All these aforementioned chemical parameters shall be determined to at least the minimum quantification level shown in Attachment A. Also the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

Part I. A. (continued)

- 2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
- 3. The pH of the effluent shall neither be less than 6.5 nor greater than 8.3 and not more than 0.5 units outside of the natural background range. There shall be no change from natural background conditions that would impair any use assigned to this water as a Class B Water.
- 4. The discharge shall not cause objectionable discoloration of the receiving waters.
- 5. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.
- 6. The permittee's treatment facility shall maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand. The percent removal shall be based on monthly average values.
- 7. The results of sampling for any parameter above its required frequency must also be reported.
- 8. All Publicly Owned Treatment Works (POTWs) must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger in a primary industry category 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:

i. The quantity and quality of effluent introduced into the POTW; and

ii. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

9. Prohibitions Concerning Interference and Pass Through:

a. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.

b. If, within 30 days after notice of an interference or pass through violation has been sent by EPA to the POTW and to persons or groups who have requested such notice, the POTW fails to commence appropriate enforcement action to correct the violation, EPA may take appropriate enforcement action.

10. Toxics Control

a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.

b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

11. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 CFR Part 122.

B. COMPLIANCE SCHEDULE

1. 150 µg/l Total Phosphorus Limitation (April 1st - October 31st)

This limit shall be achieved in accordance with the following schedule:

a. Complete plans and specifications for necessary upgrades no later than twelve months from the effective date of the permit.

b. Start construction of necessary upgrades and submit a status report to EPA no later than twenty-four months from the effective date of the permit.

c. Complete construction of necessary upgrades and attain compliance with the April 1st - October 31st final effluent limit for total phosphorus no later than forty-eight months from the effective date of the permit.

d. During this four-year period, the following total phosphorus limitations shall be met from April 1st – October 31st: 1.0 mg/l average monthly. The permittee shall monitor the total phosphorus concentration in the discharge at the frequency specified in.A.1.a. of this permit.

2. 1,000 µg/l Total Phosphorus Limitation (November 1st - March 31st)

The 1,000 μ g/l total phosphorus limit for the winter period (November 1st - March 31st) shall become effective one year from the effective date of the permit. Specifically, the permittee shall report the average monthly and maximum daily total phosphorus concentrations in the discharge for the first winter period following the effective date of the permit while working towards meeting this new limitation.

C. INDUSTRIAL PRETREATMENT PROGRAM

- 1. Pollutants introduced into POTWs by a non-domestic source (user) shall not pass through the POTW or interfere with the operation or performance of the works.
- 2. The permittee shall develop and enforce specific effluent limits (local limits) for Industrial User(s), and all other users, as appropriate, which together with appropriate changes in the POTW Treatment Plant's Facilities or operation, are necessary 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.
- 3. Within 180 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. As part of this evaluation, the permittee shall assess how the POTW performs with respect to influent and effluent of pollutants, water quality concerns, sludge quality, sludge processing concerns/inhibition, biomonitoring results, activated sludge inhibition, worker health and safety and collection system concerns.

4. In preparing this evaluation, the permittee shall complete and submit the attached form (Attachment C) 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 complete the revisions within 120 days of notification by EPA and submit the revisions to EPA for approval. The Permittee shall carry out the local limits revisions in accordance with EPA's Local Limit Development Guidance (July 2004).

5. 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 CFR 403. At a minimum, the permittee must perform the following duties to properly implement the Industrial Pretreatment Program (IPP):

a. 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.

b. 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.

c. Obtain appropriate remedies for noncompliance by any industrial user with any pretreatment standard and/or requirement.

d. Maintain an adequate revenue structure for continued implementation of the Pretreatment Program.

6. The permittee shall provide the EPA (and State) with an annual report describing the permittee's pretreatment program activities for the previous pretreatment program reporting year in accordance

with 403.12(i). The annual report shall be consistent with the format described in **Attachment D** of this permit and shall be submitted **no later than October 31 of each year**.

- 7. The permittee must obtain approval from EPA prior to making any significant changes to the industrial pretreatment program in accordance with 40 CFR 403.18.
- 8. 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 CFR 405 et. seq.
- 9. The permittee must modify its pretreatment program, if necessary, 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 this permit's effective date proposed changes, if applicable, 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; and (3) slug control evaluations. The permittee will implement these proposed changes pending EPA Region 1's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.C.3.

D. 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 is required to complete the following activities for the collection system which it owns:

1. Maintenance Staff

The permittee 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. Provisions to meet this requirement shall be described in the Collection System O & M Plan required pursuant to Section C.5. below.

2. Preventive Maintenance Program

The permittee shall maintain an ongoing preventive 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. Plans and programs to meet this requirement shall be described in the Collection System O & M Plan required pursuant to Section C.5. below.

3. Infiltration/Inflow

The permittee 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

Within 30 months of the effective date of this permit, the permittee shall prepare a map of the **DRAFT**

sewer collection system it owns (see page 1 of this permit for the effective date). The map shall be on a street map of the community, with sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions and shall be kept up to date and available for review by federal, state, or local agencies. Such map(s) shall include, but not be limited to the following:

- a. All sanitary sewer 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. combination manholes);
- d. All outfalls, including the treatment plant outfall(s), CSOs, and any known or suspected SSOs, including stormwater outfalls that are connected to combination manholes;
- 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

The permittee shall develop and implement a Collection System Operation and Maintenance Plan.

- a. Within six (6) months of the effective date of the permit, the permittee shall submit to EPA and MassDEP
 - (1) A description of the collection system management goals, staffing, information management, and legal authorities;
 - (2) A description of the collection system and the overall condition of the collection system including a list of all pump stations and a description of recent studies and construction activities; and
 - (3) A schedule for the development and implementation of the full Collection System O & M Plan including the elements in paragraphs b.1. through b.8. below.
- b. The full Collection System O & M Plan shall be submitted and implemented to EPA and MassDEP within twenty four (24) months from the effective date of this permit. The Plan shall include:
 - (1) The required submittal from paragraph 5.a. above, updated to reflect current information;
 - (2) A preventive maintenance and monitoring program for the collection system;
 - (3) Description of sufficient staffing necessary to properly operate and maintain the sanitary sewer collection system and how the operation and maintenance program is staffed;
 - (4) Description of funding, the source(s) of funding and provisions for funding sufficient for implementing the plan;
 - (5) Identification of known and suspected overflows and back-ups, including manholes. A description of the cause of the identified overflows and back-ups, corrective actions

taken, and a plan for addressing the overflows and back-ups consistent with the requirements of this permit;

- (6) A description of the permittee's programs 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
- (7) An educational public outreach program for all aspects of I/I control, particularly private inflow.
- (8) An <u>Overflow Emergency Response Plan</u> to protect public health from overflows and unanticipated bypasses or upsets that exceed any effluent limitation in the permit.
- 6. Annual Reporting Requirement

The permittee shall submit a summary report of activities related to the implementation of its Collection System O & M Plan during the previous calendar year. The report shall be submitted to EPA and MassDEP annually by March 31. 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 year;
- d. A map with areas identified for investigation/action in the coming year;
- e. If treatment plant flow has reached 80% of the design flow (2.4 MGD) 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.
- 7. Alternate Power Source

In order to maintain compliance with the terms and conditions of this permit, the permittee shall provide an alternative power source(s) sufficient to operate the portion of the publicly owned treatment works1 it owns and operates.

E. UNAUTHORIZED DISCHARGES

The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfall listed in Part I.A.1.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 in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

¹ As defined at 40 CFR §122.2, which references the definition at 40 CFR §403.3 **DRAFT**

F. SLUDGE

The permittee shall comply with all existing federal and state laws and regulations that apply to sewage sludge use and disposal practices and with the CWA Section 405 (d) technical standards.

The permittee shall comply with the more stringent of either the state or federal (40 CFR Part 503) requirements.

- 1. The requirements and technical standards of 40 CFR Part 503 apply to facilities which perform one or more of the following 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
- 2. The 40 CFR Part 503 conditions do not apply to facilities which place sludge within a municipal solid waste landfill. These conditions also do not apply to facilities which do not 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.
- 3. The permittee shall use and comply with the sludge compliance guidance document2 to determine appropriate conditions. Appropriate conditions contain the following elements.
 - a. General requirements
 - b. Pollutant limitations

c. Operational Standards (pathogen reduction requirements and vector attraction reduction requirements)

- d. Management practices
- e. Record keeping
- f. Monitoring
- g. Reporting

Depending upon the quality of material produced by a facility, all conditions may not apply to the facility.

- 4. The permittee shall monitor the pollutant concentrations, pathogen reduction and vector attraction reduction at the following frequency. This frequency is based upon the volume of sewage sludge generated at the facility in dry metric tons per year
 - a. less than 290 1/year

² http://epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf **DRAFT**

- b. 290 to less than1500
 1/quarter

 c. 1500 to less than 15000
 6/year
- d. 15000 + 1/month

The permittee shall sample the sewage sludge using the procedures detailed in 40 CFR 503.8.

- 5. The permittee shall submit an annual report containing the information specified in the guidance by February 19 of each year. Reports shall be submitted to the address contained in the reporting section of the permit. Sludge monitoring is not required by the permittee when the permittee is not responsible for the ultimate sludge disposal. The permittee must be assured that any third party contractor is in compliance with appropriate regulatory requirements. In such case, the permittee is required only to submit an annual report by February 19 containing the following information:
 - a. Name and address of contractor responsible for sludge disposal
 - b. Quantity of sludge in dry metric tons removed from the facility by the sludge contractor.

G. MONITORING AND REPORTING

- 1. For a period of one year from the effective date of the permit, the permittee may either submit monitoring data and other reports to EPA in hard copy form or report electronically using NetDMR, a web-based tool that allows permittees to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. Beginning no later than one year after the effective date of the permit, the permittee shall begin reporting using NetDMR, unless the facility is able to demonstrate a reasonable basis that precludes the use of NetDMR for submitting DMRs and reports. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below.
- 2. Submittal of Reports Using NetDMR
 - a. NetDMR is accessed from: <u>http://www.epa.gov/netdmr</u>. Within one year of the effective date of this permit, the permittee shall begin submitting DMRs and reports required under this permit electronically to EPA using NetDMR, unless the facility is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").
 - DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the MassDEP Monthly Operations and Maintenance Report, as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees shall continue to send hard copies of reports other than DMRs (including Monthly Operation and Maintenance Reports) to MassDEP until further notice from MassDEP.
- 3. Submittal of NetDMR Opt-Out Requests

Opt-out requests must be submitted in writing to EPA for written approval at least sixty (60) days prior

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to the date a facility would be required under this permit to begin using NetDMR. This demonstration shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. At such time, DMRs and reports shall be submitted electronically to EPA unless the permittee submits a renewed opt-out request and such request is approved by EPA. All opt-out requests should be sent to the following addresses:

<u>Attn: NetDMR Coordinator</u> U.S. Environmental Protection Agency, Water Technical Unit 5 Post Office Square, Suite 100 (OES04-4) Boston, MA 02109-3912

And

Massachusetts Department of Environmental Protection Surface Water Discharge Permit Program 627 Main Street, 2nd Floor Worcester, Massachusetts 01608

4. Submittal of Reports in Hard Copy Form

Monitoring results shall be summarized for each calendar month and reported on separate hard copy Discharge Monitoring Report Form(s) (DMRs) postmarked no later than the 15th day of the month following the completed reporting period. All reports required under this permit, including MassDEP Monthly Operation and Maintenance Reports, shall be submitted as an attachment to the DMRs. Signed and dated originals of the DMRs, and all other reports or notifications required herein or in Part II shall be submitted to the Director at the following address:

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

Duplicate signed copies of all reports or notifications required above shall be submitted to the State at the following addresses:

MassDEP – Central Region Bureau of Resource Protection 627 Main Street Worcester, MA 01608

And

Massachusetts Department of Environmental Protection Surface Water Discharge Permit Program 627 Main Street, 2nd Floor Worcester, Massachusetts 01608

Any verbal reports, if required in Parts I and/or II of this permit, shall be made to both EPA-New England and to MassDEP.

G. STATE PERMIT CONDITIONS

- This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.
- 2. This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.
- 3. Each agency shall have the independent right to enforce the terms and conditions of this permit. 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 this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.

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 (<u>Ceriodaphnia dubia</u>) definitive 48 hour test.
- Fathead Minnow (<u>Pimephales promelas</u>) 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).

<u>Standard Methods for the Examination of Water and Wastewater</u> 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 $1 - 6^{\circ}$ 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 <u>http://www.epa.gov/region1/enforcement/water/dmr.html</u> 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:

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EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, <u>CERIODAPHNIA</u> <u>DUBIA</u> 48 HOUR ACUTE TESTS¹

1.	Test	type

1.	Test type	Static, non-renewal
2.	Temperature (°C)	$20 \pm 1^{\circ}$ C or $25 \pm 1^{\circ}$ C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 hour light, 8 hour dark
5.	Test chamber size	Minimum 30 ml
6.	Test solution volume	Minimum 15 ml
7.	Age of test organisms	1-24 hours (neonates)
8.	No. of daphnids per test chamber	5
9.	No. of replicate test chambers per treatment	4
10.	Total no. daphnids per test concentration	20
11.	Feeding regime	As per manual, lightly feed YCT and <u>Selenastrum</u> to newly released organisms while holding prior to initiating test
12.	Aeration	None
13.	Dilution water 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 (<u>PIMEPHALES PROMELAS</u>) 48 HOUR ACUTE TEST¹

1.	Test Type	Static, non-renewal
2.	Temperature (°C)	20 ± 1 ° C or 25 ± 1 °C
3.	Light quality	Ambient laboratory illumination
4.	Photoperiod	16 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

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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. 17.	Effect measured Test acceptability	Mortality-no movement on gentle prodding 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
- 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	Х	х	0.5
Total Residual Chlorine (TRC) ^{2, 3}	Х		0.02
Alkalinity	Х	Х	2.0
рН	Х	Х	
Specific Conductance	Х	Х	
Total Solids	Х		
Total Dissolved Solids	Х		
Ammonia	Х	Х	0.1
Total Organic Carbon	Х	Х	0.5
Total Metals			
Cd	Х	Х	0.0005
Pb	Х	Х	0.0005
Cu	Х	Х	0.003
Zn	Х	Х	0.005
Ni	Х	Х	0.005
Al	Х	Х	0.02
Other as permit requires			

Notes:

- 1. Hardness may be determined by:
 - APHA <u>Standard Methods for the Examination of Water and Wastewater</u>, 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 <u>Standard Methods for the Examination of Water and Wastewater</u>, 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.

FRESHWATER CHRONIC TOXICITY TEST PROCEDURE AND PROTOCOL USEPA Region 1

I. GENERAL REQUIREMENTS

The permittee shall be responsible for the conduct of acceptable chronic toxicity tests using three fresh samples collected during each test period. The following tests shall be performed as prescribed in Part 1 of the NPDES discharge permit in accordance with the appropriate test protocols described below. (Note: the permittee and testing laboratory should review the applicable permit to determine whether testing of one or both species is required).

- Daphnid (<u>Ceriodaphnia dubia</u>) Survival and Reproduction Test.
- Fathead Minnow (<u>Pimephales promelas</u>) Larval Growth and Survival Test.

Chronic toxicity data shall be reported as outlined in Section VIII.

II. METHODS

Methods to follow are those recommended by EPA in: <u>Short Term Methods For</u> <u>Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms,</u> <u>Fourth Edition. October 2002</u>. United States Environmental Protection Agency. Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at <u>http://www.epa.gov/waterscience/WET/</u>. Exceptions and clarification are stated herein.

III. SAMPLE COLLECTION AND USE

A total of three fresh samples of effluent and receiving water are required for initiation and subsequent renewals of a freshwater, chronic, toxicity test. The receiving water control sample must be collected immediately upstream of the permitted discharge's zone of influence. Fresh samples are recommended for use on test days 1, 3, and 5. However, provided a total of three samples are used for testing over the test period, an alternate sampling schedule is acceptable. The acceptable holding times until initial use of a sample are 24 and 36 hours for onsite and off-site testing, respectively. A written waiver is required from the regulating authority for any hold time extension. All test samples collected may be used for 24, 48 and 72 hour renewals after initial use. All samples held for use beyond the day of sampling shall be refrigerated and maintained at a temperature range of $0-6^{\circ}$ C.

All samples submitted for chemical and physical analyses will be analyzed according to Section VI of this protocol.

Sampling guidance dictates that, where appropriate, aliquots for the analysis required in this protocol shall be split from the samples, containerized and immediately preserved, or analyzed as per 40 CFR Part 136. EPA approved test methods require that samples collected for metals analyses be preserved immediately after collection. Testing for the presence of total residual chlorine (TRC) must be analyzed immediately or as soon as possible, for all effluent samples, prior to WET testing. TRC analysis may be performed on-site or by the toxicity testing laboratory and the samples must be dechlorinated, as necessary, using sodium thiosulfate prior to sample use for toxicity testing.

If any of the renewal samples are of sufficient potency to cause lethality to 50 percent or more of the test organisms in any of the test treatments for either species or, if the test fails to meet its permit limits, then chemical analysis for total metals (originally required for the initial sample only in Section VI) will be required on the renewal sample(s) as well.

IV. DILUTION WATER

Samples of receiving water must be collected from a location in the receiving water body 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. EPA strongly urges that screening for toxicity be performed prior to the set up of a full, definitive toxicity test any time there is a question about the test dilution water's ability to achieve test acceptability criteria (TAC) as indicated in Section V of this protocol. The test dilution water control response will be used in the statistical analysis of the toxicity test data. All other control(s) required to be run in the test will be reported as specified in the Discharge Monitoring Report (DMR) Instructions, Attachment F, page 2,Test Results & Permit Limits.

The test dilution water must be used to determine whether the test met the applicable TAC. When receiving water is used for test dilution, an additional control made up of standard laboratory water (0% effluent) is required. This control will be used to verify the health of the test organisms and evaluate to what extent, if any, the receiving water itself is responsible for any toxic response observed.

If dechlorination of a sample by the toxicity testing laboratory is necessary a "sodium thiosulfate" control, representing the concentration of sodium thiosulfate used to adequately dechlorinate the sample prior to toxicity testing, must be included in the test.

If the use of an alternate dilution water (ADW) is authorized, in addition to the ADW test control, the testing laboratory must, for the purpose of monitoring the receiving water, also run a receiving water control.

If the receiving water diluent is found to be, or suspected to be toxic or unreliable an ADW of known quality with hardness similar to that of the receiving water may be substituted. Substitution is species specific meaning that the decision to use ADW is made for each species and is based on the toxic response of that particular species. Substitution to an ADW is authorized in two cases. The first is the case where repeating a test due to toxicity in the site dilution water requires an **immediate decision** for ADW use be made by the permittee and toxicity testing laboratory. The second is in the case where two of the most recent documented incidents of unacceptable site dilution water toxicity requires ADW use in future WET testing.

For the second case, written notification from the permittee requesting ADW use **and** written authorization from the permit issuing agency(s) is required **prior to** switching to a long-term use of ADW for the duration of the permit.

Written requests for use of ADW must be mailed with supporting documentation to the following addresses:

Director Office of Ecosystem Protection (CAA) U.S. Environmental Protection Agency, Region 1 Five Post Office Square, Suite 100 Mail Code OEP06-5 Boston, MA 02109-3912

and

Manager Water Technical Unit (SEW) U.S. Environmental Protection Agency Five Post Office Square, Suite 100 Mail Code 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 <u>http://www.epa.gov/region1/enforcementandassistance/dmr.html</u> for further important details on alternate dilution water substitution requests.

V. TEST CONDITIONS AND TEST ACCEPTABILITY CRITERIA

Method specific test conditions and TAC are to be followed and adhered to as specified in the method guidance document, EPA 821-R-02-013. If a test does not meet TAC the test must be repeated with fresh samples within 30 days of the initial test completion date.

V.1. Use of Reference Toxicity Testing

Reference toxicity test results and applicable control charts must be included in the toxicity testing report.

If reference toxicity test results fall outside the control limits established by the laboratory for a specific test endpoint, a reason or reasons for this excursion must be evaluated, correction made and reference toxicity tests rerun as necessary.

If a test endpoint value exceeds the control limits at a frequency of more than one out of twenty then causes for the reference toxicity test failure must be examined and if problems are identified corrective action taken. The reference toxicity test must be repeated during the same month in which the exceedance occurred.

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If two consecutive reference toxicity tests fall outside control limits, the possible cause(s) for the exceedance must be examined, corrective actions taken and a repeat of the reference toxicity test must take place immediately. Actions taken to resolve the problem must be reported.

V.1.a. Use of Concurrent Reference Toxicity Testing

In the case where concurrent reference toxicity testing is required due to a low frequency of testing with a particular method, if the reference toxicity test results fall <u>slightly</u> outside of laboratory established control limits, but the primary test met the TAC, the results of the primary test will be considered acceptable. However, if the results of the concurrent test fall <u>well</u> outside the established **upper** control limits i.e. ≥ 3 standard deviations for IC25 values and \geq two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and <u>must</u> be repeated.

V.2. For the *C. dubia* test, the determination of TAC and formal statistical analyses must be performed using <u>only the first three broods produced</u>.

V.3. Test treatments must include 5 effluent concentrations and a dilution water control. An additional test treatment, at the permitted effluent concentration (% effluent), is required if it is not included in the dilution series.

VI. CHEMICAL ANALYSIS

As part of each toxicity test's daily renewal procedure, pH, specific conductance, dissolved oxygen (DO) and temperature must be measured at the beginning and end of each 24-hour period in each test treatment and the control(s).

The additional analysis that must be performed under this protocol is as specified and noted in the table below.

Parameter	Effluent	Receiving Water	ML (mg/l)
Hardness ^{1, 4}	Х	X	0.5
Total Residual Chlorine (TRC) ^{2, 3, 4}	Х		0.02
Alkalinity ⁴	Х	Х	2.0
pH ⁴	Х	Х	
Specific Conductance ⁴	Х	Х	
Total Solids ⁶	Х		
Total Dissolved Solids ⁶	Х		
Ammonia ⁴	Х	Х	0.1
Total Organic Carbon ⁶	Х	Х	0.5
Total Metals ⁵			
Cd	Х	Х	0.0005
Pb	Х	Х	0.0005
Cu	Х	Х	0.003
Zn	Х	Х	0.005
Ni	Х	Х	0.005
Al	Х	Х	0.02
Other as permit requires			
Notes:			
1. Hardness may be determined by:			

 APHA <u>Standard Methods for the Examination of Water and Wastewater</u>, 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 <u>Standard Methods for the Examination of Water and Wastewater</u>, 21st Edition
 -Method 4500-CL E Low Level Amperometric Titration
 -Method 4500-CL G DPD Colorimetric Method
- USEPA 1983. <u>Manual of Methods Analysis of Water and Wastes</u> -Method 330.5

3. Required to be performed on the sample used for WET testing prior to its use for toxicity testing

4. Analysis is to be performed on samples and/or receiving water, as designated in the table above, from all three sampling events.

5. Analysis is to be performed on the initial sample(s) only unless the situation arises as stated in Section III, paragraph 4

6. Analysis to be performed on initial samples only

VII. TOXICITY TEST DATA ANALYSIS AND REVIEW

A. Test Review

1. Concentration / Response Relationship

A concentration/response relationship evaluation is required for test endpoint determinations from both Hypothesis Testing <u>and</u> Point Estimate techniques. The test report is to include documentation of this evaluation in support of the endpoint values reported. The dose-response review must be performed as required in Section 10.2.6 of EPA-821-R-02-013. Guidance for this review can be found at

<u>http://water.epa.gov/scitech/methods/cwa/</u>. In most cases, the review will result in one of the following three conclusions: (1) Results are reliable and reportable; (2) Results are anomalous and require explanation; or (3) Results are inconclusive and a retest with fresh samples is required.

2. Test Variability (Test Sensitivity)

This review step is separate from the determination of whether a test meets or does not meet TAC. Within test variability is to be examined for the purpose of evaluating test sensitivity. This evaluation is to be performed for the sub-lethal hypothesis testing endpoints reproduction and growth as required by the permit. The test report is to include documentation of this evaluation to support that the endpoint values reported resulted from a toxicity test of adequate sensitivity. This evaluation must be performed as required in Section 10.2.8 of EPA-821-R-02-013.

To determine the adequacy of test sensitivity, USEPA requires the calculation of test percent minimum significant difference (PMSD) values. In cases where NOEC determinations are made based on a non-parametric technique, calculation of a test PMSD value, for the sole purpose of assessing test sensitivity, shall be calculated using a comparable parametric statistical analysis technique. The calculated test PMSD is then compared to the upper and lower PMSD bounds shown for freshwater tests in Section 10.2.8.3, p. 52, Table 6 of EPA-821-R-02-013. The comparison will yield one of the following determinations.

- The test PMSD exceeds the PMSD upper bound test variability criterion in Table 6, the test results are considered highly variable and the test may not be sensitive enough to determine the presence of toxicity at the permit limit concentration (PLC). If the test results indicate that the discharge is not toxic at the PLC, then the test is considered insufficiently sensitive and must be repeated within 30 days of the initial test completion using fresh samples. If the test results indicate that the discharge is toxic at the PLC, the PLC, the test is considered acceptable and does not have to be repeated.
- The test PMSD falls below the PMSD lower bound test variability criterion in Table 6, the test is determined to be very sensitive. In order to determine which treatment(s) are statistically significant and which are not, for the purpose of reporting a NOEC, the relative percent difference (RPD) between the control and each treatment must be calculated and compared to the lower PMSD boundary. See *Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program*, EPA 833-R-00-003, June 2002, Section 6.4.2. The following link: Understanding and Accounting for Method Variability in Whole Effluent Toxicity Applications Under the NPDES Program can be used to locate the USEPA website containing this document. If the RPD for a treatment falls below the PMSD lower bound, the difference is considered statistically insignificant. If the RPD for a treatment is greater that the PMSD lower bound, then the treatment is considered statistically significant.
- The test PMSD falls within the PMSD upper and lower bounds in Table 6, the sub-lethal test endpoint values shall be reported as is.
- B. Statistical Analysis
- 1. General Recommended Statistical Analysis Method

Refer to general data analysis flowchart, EPA 821-R-02-013, page 43

For discussion on Hypothesis Testing, refer to EPA 821-R-02-013, Section 9.6

For discussion on Point Estimation Techniques, refer to EPA 821-R-02-013, Section 9.7

2. Pimephales promelas

Refer to survival hypothesis testing analysis flowchart, EPA 821-R-02-013, page 79

Refer to survival point estimate techniques flowchart, EPA 821-R-02-013, page 80

Refer to growth data statistical analysis flowchart, EPA 821-R-02-013, page 92

3. Ceriodaphnia dubia

Refer to survival data testing flowchart, EPA 821-R-02-013, page 168

Refer to reproduction data testing flowchart, EPA 821-R-02-013, page 173

VIII. TOXICITY TEST REPORTING

A report of results must include the following:

- Test summary sheets (2007 DMR Attachment F) which includes:
 - Facility name
 - NPDES permit number
 - Outfall number
 - Sample type
 - Sampling method
 - Effluent TRC concentration
 - Dilution water used
 - Receiving water name and sampling location
 - Test type and species
 - Test start date
 - Effluent concentrations tested (%) and permit limit concentration
 - o Applicable reference toxicity test date and whether acceptable or not
 - Age, age range and source of test organisms used for testing
 - Results of TAC review for all applicable controls
 - Test sensitivity evaluation results (test PMSD for growth and reproduction)
 - Permit limit and toxicity test results
 - o Summary of test sensitivity and concentration response evaluation

In addition to the summary sheets the report must include:

- A brief description of sample collection procedures
- Chain of custody documentation including names of individuals collecting samples, times and dates of sample collection, sample locations, requested analysis and lab receipt with time and date received, lab receipt personnel and condition of samples upon receipt at the lab(s)
- Reference toxicity test control charts
- All sample chemical/physical data generated, including minimum limits (MLs) and analytical methods used
- All toxicity test raw data including daily ambient test conditions, toxicity test chemistry, sample dechlorination details as necessary, bench sheets and statistical analysis
- A discussion of any deviations from test conditions
- Any further discussion of reported test results, statistical analysis and concentrationresponse relationship and test sensitivity review per species per endpoint

Attachment C

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 & Ad	dress :					
NPDES		PE	RMIT		#	_	:
Date EP	A 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 Ana Maximum (lb/day)	lyses Average (lb/da y)	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)Columns (2A) (2B)Effluent Data Analyses MaximumWater Quality Criter (Gold Book)(ug/l)(ug/l)Today(ug/l) (ug/l)		umns A) B) lity Criteria Book) .s g/l) g/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 Limitations (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.

Column (1) Pollutant 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)				

ATTACHMENT D

<u>NPDES PERMIT REQUIREMENT</u> <u>FOR</u> INDUSTRIAL PRETREATMENT ANNUAL REPORT

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

- 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
с.)	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 flowproportioned 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.

Required Report	Date Due	Submitted	Submitted to:
		by:	
Whole Effluent Toxicity	April 30, July 31, October 31, and January		
Test Report (Part I.A.1)	31 of each year	а	1,2,3
Initial Collection System	Within 6 months of effective date		
Operation and Maintenance		a, b, c	1.2
Plan (Part I.C.5.a.)			,
Full Collection System	Two years from the effective date of the		
Operations and	permit	a, b, c	1.2
Maintenance Plan (Part			1,2
I.C.5.b.)			
Collection System Annual	Annually by March 31		12
Report (Part I.C.6.)		a, b, c	1,2
Notification of Sanitary	Oral Report -Within 24 hours of discovery		
Sewer Overflows	of event	a, b, c	
(Part I.B.)	(contact: George Harding 617.918.1870)		1,2
	Written Report – Within 5 calendar days		
A	of discovery of event		
(Dort LD 8)	Annually by February 19		1,2
(Fait I.D.8)		a	
Local Limits Technical	Within 120 days of effective date of		12
Evaluation (Part I.E.I.)	permit	а	1,2
Pretreatment Annual Report	By October 31 of each year		
(Part I.E.3.)		а	1,2
Revisions to Pretreatment	Within 180 days of effective date of		
Program (if needed) (Part	permit	а	1,2
1.E.O.)			

Summary of Required Report Submittals*

* This table is a summary of the reports required to be submitted under this NPDES permit as an aid to the permittee(s). If there are any discrepancies between the permit and this summary, the permittee(s) shall follow the permit requirements.

- a. Massachusetts Water Resources Authority
- b. Town of Clinton
- c. Lancaster Sewerage District
- 1. EPA New England Via NetDMR
- 2. MassDEP

Bureau of Resource Protection Northeast Regional Office 205B Lowell Street Wilmington, MA 01887 3. MassDEP

Division of Watershed Management Surface Water Discharge Permit Program 627 Main Street, 2nd Floor Worcester, MA 01608

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND - REGION I 5 POST OFFICE SQUARE, SUITE 100 BOSTON, MASSACHUSETTS 02109

PARTIALLY REVISED FACT SHEET

PARTIALLY REVISED DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE TO WATERS OF THE UNITED STATES PURSUANT TO THE CLEAN WATER ACT (CWA)

NPDES PERMIT NO: MA0100404

NAME AND ADDRESS OF PERMITTEE:

Massachusetts Water Resources Authority Charlestown Navy Yard 100 First Avenue Boston, MA 02129

The Towns of Clinton and Lancaster are co-permittees for specific activities required by the permit. See Sections II a., b., and c. of this fact sheet and Sections I.D. and I.E. of the draft permit. The responsible municipal departments are:

Town of Clinton Department of Public Works 242 Church Street Clinton, MA 01510 Lancaster Sewer District P.O. Box 773 226 Main Street South Lancaster, MA 01561

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Massachusetts Water Resources Authority Clinton Wastewater Treatment Facility 677 High Street Clinton, MA 01510

RECEIVING WATERS: South Branch Nashua River (MA81-09)

CLASSIFICATION: Class B - Warm Water Fishery

I. PROPOSED ACTION

a. Decision to Partially Reopen Permit for Public Comment

On September 29, 2010, the Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) released a Draft Permit for the Massachusetts Water Resources Authority-Clinton (MWRA-Clinton) wastewater treatment plant for public review and comment. The public comment period closed on October 28, 2010. Numerous comments were received, including comments from MWRA and the MWRA-Clinton satellite communities. Among the issues raised in the comments was the legal basis for including the satellite communities as limited co-permittees to the permit for sewer system operation and maintenance requirements.

Since the close of the public comment period, events have occurred that have influenced EPA's determinations regarding the Draft Permit. In a May 28, 2010 decision related to the appeal of the Upper Blackstone Water Pollution Abatement District permit, the Environmental Appeals Board (EAB) remanded to EPA conditions related to co-permittees, finding that EPA had failed to adequately articulate in the record of proceeding a rule-of-decision, or interpretation, identifying the statutory and regulatory basis for expanding the scope of NPDES authority beyond the treatment plant owner and operator to separately owned and operated collections systems. EPA Region 1 has conducted an evaluation of its legal authority and has developed a Regional permitting approach for satellite collection systems that supports the inclusion of the owners of satellite collection systems as co-permittees. The permitting strategy, titled "EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS" has been included as Appendix A to this fact sheet.

Additionally, during the extended period since the Draft Permit was released for public comment, EPA has updated several standard permit conditions pertaining to collection system operation and maintenance and whole effluent toxicity testing. These updated conditions are also included in the Partially Revised Draft Permit, and are also described in a later section of this fact sheet.

EPA also became aware of deficiencies in the reasonable potential analysis for aluminum conducted in the fact sheet for the 2010 Draft Permit. A revised reasonable potential analysis, using recent data is included in this fact sheet.

Based on these issues, EPA has decided to revise portions of the 2010 Draft Permit and solicit public comment on those revisions. The specific changes are discussed in detail in the following sections of this fact sheet. The fact sheet for the 2010 Draft Permit is also attached (see Appendix B) so that the basis for the conditions in that version of the Draft Permit may be understood.

b. Scope of Opening

In accordance with 40 C.F.R. § 124.14(c), comments filed on this Draft Permit during the reopened comment period are limited to the "substantial new questions that caused its reopening." Substantial new questions that caused its reopening are

- the inclusion of the satellite sewer communities as limited co-permittees and the permittee and co-permittees responsibilities in Part I.C Operation and Maintenance of the Sewer System,
- the updated collection system maintenance requirements in Part I.C. Operation and Maintenance of the Sewer System,

- modification to the total phosphorus compliance schedule,
- the changes to the WET requirements, and
- the reasonable potential analysis for aluminum.

II. PERMIT BASIS AND EXPLANATION OF CHANGES

a. Co-Permittees

The Town of Clinton and the Lancaster Sewer District were listed as co-permittees on the 2010 Draft Permit and shall remain co-permittees on the revised Draft Permit. Each Town owns and operates a separate section of the sewer collection system that transports sewage to MWRA-Clinton's facility for treatment. The copermittees are only subject to the requirements in and Part I.D, Operation and Maintenance of the Sewer System Part I.E, Unauthorized Discharges.

Comments received on the 2010 Draft Permit included comments from MWRA and its satellite sewer communities opposing the inclusion of the satellite sewer communities as limited co-permittees.

On May 28, 2010, the Environmental Appeals Board (EAB) remanded to EPA the co-permitting provisions in a permit issued to the Upper Blackstone Water Pollution Abatement District in Millbury, Massachusetts, a large publicly owned treatment plant. These conditions had been appealed to the EAB by the permittee and four of its satellite communities. In its order, the EAB found that EPA had not adequately articulated in the record of the proceeding a rule-of-decision, or interpretation, identifying the statutory and regulatory basis for expanding the scope of NPDES authority beyond the treatment plant owner and operator to separately owned and operated collection systems that discharge to the treatment plant, and gave EPA the options of providing the appropriate legal and technical basis for supporting the co-permitting provision, or withdrawing the provisions. In the interest of quickly placing other contested provisions into effect, EPA withdrew the co-permitting requirements in that permit. See http://www.epa.gov/region1/npdes/permits/2010/finalma0102369DeterminationOnRemand.pdf

However, since that time, EPA Region 1 has developed a more comprehensive factual and legal rationale for its decision to regulate satellite collection systems. Attachment A of this fact sheet is a copy of "*EPA* **REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS**". EPA believes this document establishes its legal authority to include satellite communities as co-permittees, and has therefore retained the Town of Clinton and Lancaster Sewer District as co-permittees in the revised Draft Permit.

b. Operation and Maintenance of the Sewer System

Part I.D, Operation and Maintenance of the Sewer System (Part I.D.) has also been reopened for public comment. The standard language and requirements in Part I.D, have been updated from the requirements in the 2010 Draft Permit. The revised language and requirements reflect the standard requirements for all NPDES permits now being drafted for publicly owned treatment works in Massachusetts.

The revisions in Part I.D. require MWRA and the co-permittees to each develop a collection system operation and maintenance plan, and to map its sanitary sewer system. The schedule for completing the collection system operation and maintenance plan has two milestones.

The first milestone is that within six (6) months of the effective date of the permit, the permittee shall submit to EPA and MassDEP a description of the collection system management goals, staffing, information management, and legal authorities; a description of the overall condition of the collection system including a list of recent studies and construction activities; and a schedule for the development and implementation of the full Collection System O & M Plan.

The second milestone is that within twenty-four (24) months from the effective date of the permit, the full Collection System O & M Plan shall be implemented, and a copy submitted to EPA and MassDEP. The final plan is required to include: a preventative maintenance and monitoring program for the collection system; sufficient staffing to properly operate and maintain the sanitary sewer collection system; sufficient funding and the source(s) of funding for implementing the plan; identification of known and suspected overflows and back-ups, including 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 the permit; a description of the permittees and co-permittees programs for preventing infiltration/inflow(I/I)-related effluent violations and all unauthorized discharges of wastewater, including overflows and bypasses, and an ongoing program to identify and remove sources of I/I. The program is required to also include an inflow identification and control program that focuses on the disconnection and redirection of illegal sump pumps and roof down spouts; and an educational public outreach program for all aspects of I/I control, particularly private inflow.

The Partially Revised Draft Permit also requires that sanitary sewer mapping be completed within thirty (30) months of the effective date of the permit, and includes specific information to be recorded on the maps.

c. Unauthorized Discharges

The requirements in Part I. E, Unauthorized Discharges allows discharges from the facilities that are in accordance with the terms and conditions of the Draft Permit. The only discharge authorized from this facility is the treatment plant outfall, as listed in Part I.A.1. No other discharges are authorized by this permit, including sanitary sewer overflows (SSOs).

Part I.E. also requires that all unauthorized discharges, including sanitary sewer overflows be reported in accordance with general requirements of Part II, Standard Conditions of the Draft Permit. Therefore, the Towns that own and operate satellite collection systems are subject to this Part. Unauthorized discharge from these collection systems must be reported by the owner.

The Part I.E. requirements in the Partially Revised Draft Permit are the same as in the 2010 Draft Permit.

d. Compliance Schedule for Total Phosphorus

The 2010 Draft Permit included a 48-month compliance schedule for the permittee to install upgrades necessary to meet a seasonal total phosphorus limit of 150 μ g/L. Since that time, the permittee has completed conceptual design of the POTW upgrades. Therefore, in the Partially Revised Draft Permit, the conceptual design portion of the compliance schedule has been removed. Additionally, based on feedback from the permittee, the time allowed for construction of the proposed upgrades was expanded to 24 months, instead of the 12-month time period in the 2010 Draft Permit.

e. Total Recoverable Aluminum

The original fact sheet released for public comment with the 2010 Draft Permit found that aluminum in the effluent had reasonable potential to cause a violation of water quality standards but included a monitoring requirement rather than a water quality-based limit. In retrospect, this was an incorrect interpretation of the applicable regulations regarding reasonable potential. Therefore, EPA decided to re-evaluate the need for an effluent aluminum limit using updated data as part of this re-notice.

The new evaluation found no reasonable potential for effluent aluminum to cause a violation of water quality standards. This finding is due to reduced aluminum discharges from the MWRA-Clinton facility. As Figure 1 shows below, levels of aluminum in the effluent for most of 2011 and all of 2012 were below the Gold Book chronic criterion of 0.087 mg/l, meaning that the discharge could not cause or contribute to an exceedance of the criteria. Because there is no reasonable potential, the Partially Revised Draft Permit does not include an effluent limit for aluminum, but does proposes a monthly monitoring requirement for aluminum, the same frequency proposed in the previously publicly noticed permit.



f. Whole Effluent Toxicity Testing

EPA Region 1 has recently changed its policy regarding whole effluent toxicity testing protocols. The 2010 public noticed permit allowed use of a modified chronic test that allowed acute endpoints to be determined from the chronic test. This protocol is not consistent with 40 CFR Part 136 WET testing methods, so EPA has determined that where both chronic and acute endpoints are required, the permittee

shall conduct separate chronic and acute tests for permit compliance monitoring. The Revised Freshwater Acute Toxicity Test Procedure and Protocol and the revised Freshwater Chronic Toxicity Test Procedure and Protocol are now attached to the Partially Revised Draft Permit as Attachments B and C respectively.

III. STATE CERTIFICATION REQUIREMENTS

Staff of MassDEP have reviewed the partially revised Draft Permit. EPA has requested permit certification by the State pursuant to CWA § 401(a)(1) and 40 CFR § 124.53 and expects that the Draft Permit, as revised, will be certified.

IV. COMMENT PERIOD, HEARING REQUESTS, and PROCEDURES FOR FINAL DECISIONS

All persons, including applicants, who believe the revised conditions of the revised Draft Permit are 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 Robin Johnson, U.S. EPA, Office of Ecosystem Protection, Municipal Permits Branch, 5 Post Office Square-Suite 100, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing for a public hearing to consider the revised conditions in the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA 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. Pursuant to 40 CFR 124.17, at the time the final permit decision is issued, EPA will also issue a response to comments, which will include responses to all significant comments submitted on the 2010 Draft permit and on the Partially Revised Draft Permit.

NPDES Permit No. MA0100404 Page 7 of 7

V. EPA AND MassDEP CONTACTS

Additional information concerning the permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays, from:

Robin JohnsonorUS Environmental Protection Agency5 Post Office SquareSuite 100 (OEP6-01)Boston, Massachusetts 02109Telephone: (617) 918-1045Fax: (617) 918-0045Email: johnson.robin@epamail.epa.gov

Claire Golden MA Department of Environmental Protection Division of Watershed Management 205B Lowell Street Wilmington, MA 01887 Telephone: (978) 694-3244 Fax: (978) 694-3499 Email: claire.golden@state.ma.us

9/12/2013	Ken Moraff, Acting Director*
Date	Office of Ecosystem Protection
	U.S. Environmental Protection Agency

* Comments should be addressed to both Robin Johnson and Claire Golden, not Ken Moraff.

EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS

This regional interpretative statement provides notice to the public of EPA Region 1's interpretation of the Clean Water Act ("CWA" or "Act") and implementing regulations, and advises the public of relevant policy considerations, regarding the applicability of the National Pollutant Discharge Elimination System ("NPDES") program to publicly owned treatment works ("POTWs") that include municipal satellite sewage collection systems ("regionally integrated POTWs"). When issuing NPDES permits to these types of sanitary sewer systems, it is EPA Region 1's practice to include and regulate the owners/operators of the municipal satellite collection systems through a co-permitting structure. This interpretative statement is intended to explain, generally, the basis for this practice. EPA Region 1's decision in any particular case will be made by applying the law and regulations on the basis of specific facts when permits are issued.

EPA has set out a national policy goal for the nation's sanitary sewer systems to adhere to strict design and operational standards:

"Proper [operation and maintenance] of the nation's sewers is integral to ensuring that wastewater is collected, transported, and treated at POTWs; and to reducing the volume and frequency of ...[sanitary sewer overflow] discharges. Municipal owners and operators of sewer systems and wastewater treatment facilities need to manage their assets effectively and implement new controls, where necessary, as this infrastructure continues to age. Innovative responses from all levels of government and consumers are needed to close the gap."¹

Because ownership/operation of a regionally integrated POTW is divided among multiple parties, the owner/operator of the treatment plant many times lacks the means to implement comprehensive, system-wide operation and maintenance ("O & M") procedures. Failure to properly implement O & M measures in a POTW can cause, among other things, excessive extraneous flow (*i.e.*, inflow and infiltration) to enter, strain and occasionally overload treatment system capacity. This failure not only impedes EPA's national policy goal concerning preservation of the nation's wastewater infrastructure assets, but also frustrates achievement of the water quality- and technology-based requirements of CWA § 301 to the extent it results in sanitary sewer overflows and degraded treatment plant performance, with adverse impacts on human health and the environment.

In light of these policy objectives and legal requirements, it is EPA Region 1's permitting practice to subject all portions of the POTW to NPDES requirements in order to ensure that the treatment system as a whole is properly operated and maintained and that human health and water quality impacts resulting from excessive extraneous flow are minimized. The approach of addressing O&M concerns in a regionally integrated treatment works by adding municipal

¹ See Report to Congress: Impacts and Control of CSOs and SSOs (EPA 833-R-04-001) (2004), at p. 10-2. See also "1989 National CSO Control Strategy," 54 Fed. Reg. 37371 (September 8, 1989).

satellite collection systems as co-permittees is consistent with the definition of "publicly owned treatment works," which by definition includes sewage collection systems. Under this approach, the POTW in its entirety is subject to NPDES regulation as a point source discharger under the Act. This entails imposition of permitting requirements applicable to the POTW treatment plant along with a more limited set of conditions applicable to the connected municipal satellite collection systems.

The factual and legal basis for the Region's position is set forth in greater detail in Attachment A.

Attachment A

ANALYSIS SUPPORTING EPA REGION 1 NPDES PERMITTING APPROACH FOR PUBLICLY OWNED TREATMENT WORKS THAT INCLUDE MUNICIPAL SATELLITE SEWAGE COLLECTION SYSTEMS

Exhibit A	List of regional centralized POTW treatment plants and municipal satellite collection systems subject to the co-permittee policy
Exhibit B	Analysis of extraneous flow trends for representative systems
Exhibit C	List of municipal satellite collection systems that have had SSOs
Exhibit D	Form of Regional Administrator's waiver of permit application requirements for municipal satellite collection systems

Introduction

On May 28, 2010, the U.S. EPA Environmental Appeals Board ("Board") issued a decision remanding to the Region certain NPDES permit provisions that included and regulated satellite collection systems as co-permittees. *See In re Upper Blackstone Water Pollution Abatement District*, NPDES Appeal Nos. 08-11 to 08-18 & 09-06, 14 E.A.D. (*Order Denying Review in Part and Remanding in Part*, EAB, May 28, 2010).² While the Board "did not pass judgment" on the Region's position that its NPDES jurisdiction encompassed the entire POTW and not only the treatment plant, it held that "where the Region has abandoned its historical practice of limiting the permit only to the legal entity owning and operating the wastewater treatment plant, the Region had not sufficiently articulated in the record of this proceeding the statutory, regulatory, and factual bases for expanding the scope of NPDES authority beyond the treatment plant owner/operator to separately owned/operated collection systems that do not discharge directly to waters of the United States, but instead that discharge to the treatment plant." *Id., slip op.* at 2, 18. In the event the Region decided to include and regulate municipal satellite collection systems as co-permittees in a future permit, the Board posed several questions for the Region to address in the analysis supporting its decision:

(1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

² The decision is available on the Board's website via the following link: <u>http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/30b93f139d3788908525706c005185b4/34e841c87f346d9485257</u> <u>7360068976f!OpenDocument</u>.

(2) If the latter, how far up the collection system does NPDES jurisdiction reach, *i.e.*, where does the "collection system" end and the "user" begin?

(3) Do municipal satellite collection systems "discharge [] a pollutant" within the meaning of the statute and regulations?

(4) Are municipal satellite collection systems "indirect dischargers" and thus excluded from NPDES permitting requirements?

(5) Is the Region's rationale for regulating municipal satellite collection systems as copermittees consistent with the references to "municipality" in the regulatory definition of POTW, and the definition's statement that "[t]he term also means the municipality...which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works"?

(6) Is the Region's rationale consistent with the permit application and signatory requirements under NPDES regulations?

See Blackstone, slip op. at 18, 20, n. 17.

This regional interpretative statement is, in part, a response to the Board's decision. It details the legal and policy bases for regulating as co-permittees publicly owned treatment works ("POTWs") that include municipal satellite collection systems. Region 1's analysis is divided into five sections. First, the Region provides context for the co-permitting approach by briefly describing the health and environmental impacts associated with poorly maintained sanitary sewer systems. Second, the Region outlines its evolving permitting practice regarding regionally integrated POTWs, particularly its attempts to ensure that such entity's municipal satellite collection systems are properly maintained and operated. Third, the Region explains the legal authority to include municipal satellite collection systems as co-permittees when permitting regionally integrated POTWs. In this section, the Region answers the questions posed by the Board in the order presented above. Fourth, the Region sets forth the basis for the specific conditions to which the municipal satellite collection systems are subject as co-permittees. Finally, the Region discusses other considerations informing its decision to employ a co-permittee structure when permitting regionally integrated POTWs.

I. Background

A sanitary sewer system (SSS) is a wastewater collection system owned by a state or municipality that is designed to collect and convey only sanitary wastewater (domestic sewage from homes as well as industrial and commercial wastewater).³ The purpose of these systems is

³ A combined sewer, on the other hand, is a type of sewer system that collects and conveys sanitary sewage and stormwater runoff in a single-pipe system to a POTW treatment plant. *See generally* Report to Congress: Impacts and Control of CSOs and SSOs (EPA 833-R-04-001) (2004), from which EPA Region 1 has drawn this background material.

to transport wastewater uninterrupted from its source to a treatment facility. Developed areas that are served by sanitary sewers often also have a separate storm sewer system (*e.g.*, storm drains) that collects and conveys runoff, street wash waters and drainage and discharges them directly to a receiving water (*i.e.*, without treatment at a POTW). While sanitary sewers are not designed to collect large amounts of runoff from precipitation events or provide widespread drainage, they typically are built with some allowance for higher flows that occur during periods of high groundwater and storm events. They are thus able to handle minor and controllable amounts of extraneous flow (*i.e.*, inflow and infiltration, or I/I) that enter the system. Inflow generally refers to water other than wastewater—typically precipitation like rain or snowmelt—that enters a sewer system through a direct connection to the sewer. Infiltration generally refers to the sewer system from the ground, for example through defects in the sewer.

Municipal sanitary sewer collection systems can consist of a widespread network of pipes and associated components (*e.g.*, pump stations). These systems provide wastewater collection service to the community in which they are located. In some situations, the municipality that owns the collector sewers may not provide treatment of wastewater, but only conveys its wastewater to a collection system that is owned and operated by a different municipal entity (such as a regional sewer district). This is known as a satellite community. A "satellite" community is a sewage collection system owner/operator that does not have ownership of the treatment facility and a specific or identified point of discharge but rather the responsibility to collect and convey the community's wastewater to a POTW treatment plant for treatment. *See* 75 Fed. Reg. 30395, 30400 (June 1, 2010).

Municipal sanitary sewer collection systems play a critical role in protecting human health and the environment. Proper operation and maintenance of sanitary sewer collection systems is integral to ensuring that wastewater is collected, transported, and treated at POTW treatment plants. Through effective operation and maintenance, collection system operators can maintain the capacity of the collection system; reduce the occurrence of temporary problem situations such as blockages; protect the structural integrity and capacity of the system; anticipate potential problems and take preventive measures; and indirectly improve treatment plant performance by minimizing deterioration due to I/I-related hydraulic overloading.

Despite their critical role in the nation's infrastructure, many collection systems exhibit poor performance and are subjected to flows that exceed system capacity. Untreated or partially treated overflows from a sanitary sewer system are termed "sanitary sewer overflows" (SSOs). SSOs include releases from sanitary sewers that reach waters of the United States as well as those that back up into buildings and flow out of manholes into city streets.

There are many underlying reasons for the poor performance of collection systems. Much of the nation's sanitary sewer infrastructure is old, and aging infrastructure has deteriorated with time. Communities also sometimes fail to provide capacity to accommodate increased sewage delivery and treatment demand from increasing populations. Furthermore, institutional arrangements relating to the operation of sewers can pose barriers to coordinated action, because many

municipal sanitary sewer collection systems are not entirely owned or operated by a single municipal entity.

The performance and efficiency of municipal collection systems influence the performance of sewage treatment plants. When the structural integrity of a sanitary sewer collection system deteriorates, large quantities of infiltration (including rainfall-induced infiltration) and inflow can enter the collection system, causing it to overflow. These extraneous flows are among the most serious and widespread operational challenges confronting treatment works.⁴

Infiltration can be long-term seepage of water into a sewer system from the water table. In some systems, however, the flow characteristics of infiltration can resemble those of inflow, *i.e.*, there is a rapid increase in flow during and immediately after a rainfall event, due, for example, to rapidly rising groundwater. This phenomenon is sometimes referred to as rainfall-induced infiltration.

Sanitary sewer systems can also overflow during periods of normal dry weather flows. Many sewer system failures are attributable to natural aging processes or poor operation and maintenance. Examples include years of wear and tear on system equipment such as pumps, lift stations, check valves, and other moveable parts that can lead to mechanical or electrical failure; freeze/thaw cycles, groundwater flow, and subsurface seismic activity that can result in pipe movement, warping, brittleness, misalignment, and breakage; and deterioration of pipes and joints due to root intrusion or other blockages.

Inflow and infiltration impacts are often regional in nature. Satellite collection systems in the communities farthest from the POTW treatment plant can cause sanitary sewer overflows ("SSOs") in communities between them and the treatment plant by using up capacity in the interceptors. This can cause SSOs in the interceptors themselves or in the municipal sanitary sewers that lead to them. The implication of this is that corrective solutions often must also be regional in scope to be effective.

The health and environmental risks attributed to SSOs vary depending on a number of factors including location and season (potential for public exposure), frequency, volume, the amount and type of pollutants present in the discharge, and the uses, conditions, and characteristics of the receiving waters. The most immediate health risks associated with SSOs to waters and other areas with a potential for human contact are associated with exposure to bacteria, viruses, and other pathogens.

Human health impacts occur when people become ill due to contact with water or ingestion of water or shellfish that have been contaminated by SSO discharges. In addition, sanitary sewer systems can back up into buildings, including private residences. These discharges provide a

⁴ In a 1989 Water Pollution Control Federation survey, 1,003 POTWs identified facility performance problems. Infiltration and inflow was the most frequently cited problem, with 85 percent of the facilities reporting I/I as a problem. I/I was cited as a major problem by 41 percent of the facilities (32 percent as a periodic problem). [BP: Is there anything more recent?]

direct pathway for human contact with untreated wastewater. Exposure to land-based SSOs typically occurs through the skin via direct contact. The resulting diseases are often similar to those associated with exposure through drinking water and swimming (*e.g.*, gastroenteritis), but may also include illness caused by inhaling microbial pathogens. In addition to pathogens, raw sewage may contain metals, synthetic chemicals, nutrients, pesticides, and oils, which also can be detrimental to the health of humans and wildlife.

II. EPA Region 1 Past Practice of Permitting POTWs that Include Municipal Satellite Collection Systems

EPA Region 1's practice in permitting regionally integrated POTWs has developed in tandem with its increasing focus on addressing I/I in sewer collection systems, in response to the concerns outlined above. Up to the early 1990s, POTW permits issued by Region 1 generally did not include specific requirements for collection systems. When I/I and the related issue of SSOs became a focus of concern both nationally and within the region in the mid-1990s, Region 1 began adding general requirements to POTW permits that required the permittees to "eliminate excessive infiltration and inflow" and provide an annual "summary report" of activities to reduce I/I. As the Region gathered more information and gained more experience in assessing these reports and activities, it began to include more detailed requirements and reporting provisions in these permits.

MassDEP also engaged in a parallel effort to address I/I, culminating in 2001 with the issuance of MassDEP Policy No. BRP01-1, "Interim Infiltration and Inflow Policy." Among other provisions, this policy established a set of standard NPDES permit conditions for POTWs that included development of an I/I control plan (including funding sources, identification and prioritization of problem areas, and public education programs) and detailed annual reporting requirements (including mapping, reporting of expenditures and I/I flow calculations). Since September 2001, these requirements have been the basis for the standard operation and maintenance conditions related to I/I.

Regional treatment plants presented special issues as I/I requirements became more specific, as it is generally the member communities, rather than the regional sewer district, that own the collection systems that are the primary source of I/I. Before the focus on I/I, POTW permits did not contain specific requirements related to the collection system component of POTWs. Therefore, when issuing NPDES permits to authorize discharges from regionally integrated treatment POTWs, EPA Region 1 had generally only included the legal entity owning and/or operating the regionally centralized wastewater treatment plant. As the permit conditions were focused on the treatment plant itself, this was sufficient to ensure that EPA had authority to enforce the permit requirements.

In implementing the I/I conditions, Region 1 initially sought to maintain the same structure, placing the responsibility on the regional sewer district to require I/I activities by the contributing systems and to collect the necessary information from those systems for submittal to EPA. MassDEP's 2001 Interim I/I Policy reflected this approach, containing a condition for regional systems:

((FOR REGIONAL FACILITIES ONLY)) The permittee shall require, through appropriate agreements, that all member communities develop and implement infiltration and inflow control plans sufficient to ensure that high flows do not cause or contribute to a violation of the permittees effluent limitations, or cause overflows from the permittees collection system.

As existing NPDES permittees, the POTW treatment plants were an obvious locus of regulation. The Region assumed the plants would be in a position to leverage preexisting legal and/or contractual relationships with the satellite collection systems they serve to perform a coordinating function, and that utilizing this existing structure would be more efficient than establishing a new system of direct reporting to EPA by the collection system owners. The Region also believed that the owner/operator of the POTW treatment plant would have an incentive to reduce flow from contributing satellite systems because doing so would improve treatment plant performance and reduce operation costs. While relying on this cooperative approach, however, EPA Region 1 also asserted that it had the authority to require that POTW collection systems be included as NPDES permittees and that it would do so if it proved necessary. Indeed, in 2001 Region 1 acceded to Massachusetts Water Resources Authority's ("MWRA") request that the contributing systems to the MWRA Clinton wastewater treatment plant ("WWTP") be included as co-permittees, based on evidence provided by MWRA that its specific relationship with those communities would not permit it to run an effective I/I reduction program for these collection systems. EPA Region 1 also put satellite collection systems on notice that they would be directly regulated through legally enforceable permit requirements if I/I reductions were not pursued or achieved.

In time, the Region realized that its failure to assert direct jurisdiction over municipal satellite dischargers was becoming untenable in the face of mounting evidence that cooperative (or in some cases non-existent) efforts on the part of the POTW treatment plant and associated satellites were failing to comprehensively address the problem of extraneous flow entering the POTW. The ability and/or willingness of regional sewer districts to attain meaningful I/I efforts in their member communities varied widely. The indirect structure of the requirements also tended to make it difficult for EPA to enforce the implementation of meaningful I/I reduction programs.

It became evident to EPA Region 1 that a POTW's ability to comply with CWA requirements depended on successful operation and maintenance of not only the treatment plant but also the collection system. For example, the absence of effective I/I reduction and operation/maintenance programs was impeding the Region's ability to prevent or mitigate the human health and water quality impacts associated with SSOs. *See Exhibit B* (Municipal satellite collection systems with SSOs). Additionally, these excess flows stressed POTW treatment plants from a hydraulic capacity and performance standpoint, adversely impacting effluent quality. *See Exhibit C* (Analysis of extraneous flow trends for representative systems). Addressing these issues in regional systems was essential, as these include most of the largest systems in terms of flow, population served and area covered, and serve the largest population centers.

The Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator represents a necessary and logical progression in its continuing effort to effectively address the serious problem of I/I in sewer collection systems.⁵ In light of its past permitting experience and the need to effectively address the problem of extraneous flow on a system-wide basis, Region 1 decided that it was necessary to refashion permits issued to regionally integrated POTWs to encompass all owners/operators of the treatment works (*i.e.*, the regional centralized POTW treatment plant and the municipal satellite collection systems.⁶ Specifically, Region 1 determined that the satellite systems should be subject as co-permittees to a limited set of O&M-related conditions on permits issued for discharges from regionally integrated treatment works. These conditions pertain only to the portions of the POTW collection system that the satellites own. This ensures maintenance and pollution control programs are implemented with respect to all portions of the POTW. Accordingly, since 2005, Region 1 has generally included municipal satellite collection systems as co-permittees for limited purposes, in addition to the owner/operator of the treatment plant as the main permittee subject to the full array of NPDES requirements, including secondary treatment and water-quality based effluent limitations. The Region has identified 25 permits issued by the Region to POTWs in New Hampshire and Massachusetts that include municipal satellite collection systems as co-permittees. See Exhibit A. The 25 permits include a total of 55 satellite collection systems as co-permittees.

III. Legal Authority

The Region's prior and now superseded practice of limiting the permit only to the legal entity owning and/or operating the wastewater treatment plant had never been announced as a regional policy or interpretation. Similarly, the Region's practice of imposing NPDES permit conditions on the municipal collection systems in addition to the treatment plant owner/operator has also never been expressly announced as a uniform, region-wide policy or interpretation. Upon consideration of the Board's decision, described above, EPA Region 1 has decided to supply a clearer, more detailed explanation regarding its use of a co-permittee structure when issuing NPDES permits to regionally integrated POTWs. In this section, the Region addresses the questions posed by the Board in the *Upper Blackstone* decision referenced above.

⁵ Although EPA Region 1 has in the past issued NPDES permits only to the legal entities owning and operating the wastewater treatment plant (*i.e.*, only a portion of the "treatment works"), the Region's reframing of permits to include municipal satellite collection systems does not represent a break or reversal from its historical legal position. EPA Region 1 has never taken the legal position that the satellite collection systems are beyond the reach of the CWA and the NPDES permitting program. Rather, the Region as a matter of discretion had merely never determined it necessary to exercise its statutory authority to directly reach these facilities in order to carry out its NPDES permitting obligations under the Act.

⁶ EPA has "considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges." *Natural Resources Defense Council, Inc. v. Costle*, 568 F.2d 1369, 1380 (D.C.Cir.1977). ("[T]his ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.").

(1) Is the scope of NPDES authority limited to owners/operators of the treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that comprise the wider POTW?

The scope of NPDES authority extends beyond the owners/operators of the treatment plant to include to owners/operators of portions of the wider POTW, for the reasons discussed below.

The CWA prohibits the "discharge of any pollutant by any person" from any point source to waters of the United States, except, *inter alia*, in compliance with an NPDES permit issued by EPA or an authorized state pursuant to Section 402 of the CWA. CWA § 301, 402(a)(1); 40 C.F.R. § 122.1(b). Where there is a discharge of pollutants, NPDES regulations require the "operator" of the discharging "facility or activity" to obtain a permit in circumstances where the operator is different from the owner. *Id.* § 122.21(b). "Owner or operator" is defined as "the owner or operator of any 'facility or activity' subject to regulation under the NPDES program," and a "facility or activity" is "any NPDES 'point source' or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program." *Id.* § 122.2.

"Publicly owned treatment works" are facilities subject to the NPDES program. Statutorily, POTWs as a class must meet performance-based requirements based on available wastewater treatment technology. See CWA § 402(a)(1) ("[t]he Administrator may...issue a permit for the discharge of any pollutant....upon condition that such discharge will meet (A) all applicable requirements under [section 301]..."); § 301(b)(1)(B) ("In order to carry out the objective of this chapter there shall be achieved...for publicly owned treatment works in existence on July 1, 1977...effluent limitations based upon secondary treatment[.]"); see also 40 C.F.R. pt 133. In addition to secondary treatment requirements, POTWs are also subject to water quality-based effluent limits if necessary to achieve applicable state water quality standards. See CWA § 301(b)(1)(C). See also 40 C.F.R. § 122.44(a)(1) ("...each NPDES permit shall include...[t]echnology-based effluent limitations based on: effluent limitations and standards published under section 301 of the Act") and (d)(1) (same for water quality standards and state requirements). NPDES regulations similarly identify the "POTW" as the entity subject to regulation. See 40 C.F.R. § 122.21(a), (requiring "new and existing POTWs" to submit information required in 122.21(j)," which in turn requires "all POTWs," among others, to provide permit application information).

A municipal satellite collection system is part of a POTW under applicable law. The CWA and its implementing regulations broadly define "POTW" to include not only wastewater treatment plants but also the sewer systems and associated equipment that collect wastewater and convey it to the plants. Under NPDES regulations at 40 C.F.R. §§ 122.2 and 403.3(q), the term "Publicly Owned Treatment Works" or "POTW" means "a treatment works as defined by section 212 of the Act, which is owned by a State or municipality (as defined by section 502(4) of the Act)." Under section 212 of the Act,

"(2)(A) The term 'treatment works' means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid

nature to implement section 1281 of this title, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, *sewage collection systems* [emphasis added], pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process (including land used for the storage of treated wastewater in land treatment systems prior to land application) or is used for ultimate disposal of residues resulting from such treatment.

(B) In addition to the definition contained in subparagraph (A) of this paragraph, 'treatment works' means any other method or system for preventing, abating, reducing, storing, treating, separating, or disposing of municipal waste, including storm water runoff, or industrial waste, including waste in combined storm water and *sanitary sewer systems* [emphasis added]. Any application for construction grants which includes wholly or in part such methods or systems shall, in accordance with guidelines published by the Administrator pursuant to subparagraph (C) of this paragraph, contain adequate data and analysis demonstrating such proposal to be, over the life of such works, the most cost efficient alternative to comply with sections 1311 or 1312 of this title, or the requirements of section 1281 of this title."

Under the NPDES program regulations, this definition has been interpreted as follows:

"The term *Publicly Owned Treatment Works* or *POTW* [emphasis in original]...includes any devices and systems used in the storage, treatment, recycling and reclamation of municipal sewage or industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances only if they convey wastewater to a POTW Treatment Plant. The term also means the municipality as defined in section 502(4) of the Act, which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works."

See 40 C.F.R. § 122.2, cross-referencing 403.3(q).

The statutory and regulatory definitions plainly encompass both the POTW treatment plant and municipal satellite collection systems. Municipal satellite collection systems are part of a POTW by definition (*i.e.*, they are "sewage collection systems" under section 212(A) and "sanitary sewer systems" under section 212(B)). They are also conveyances that send wastewater to a POTW treatment plant for treatment under 40 C.F.R. 403.3(q)). The preamble to the rule that created the regulatory definition of POTW supports the reading that the treatment plant comprises only a portion of the POTW. *See* 44 Fed. Reg. 62260, 62261 (Oct. 29, 1979).⁷

⁷ "A new provision...defining the term 'POTW Treatment Plant' has been added to avoid an ambiguity that now exists whenever a reference is made to a POTW (publicly owned treatment works). ...[T]he existing regulation defines a POTW to include both the treatment plant and the sewer pipes and other conveyances leading to it. As a result, it is unclear whether a particular reference is to the pipes, the treatment plant, or both. The term "POTW

Consistent with EPA Region 1's interpretation, courts have similarly taken a broad reading of the terms treatment works and POTW.⁸

(2) If the latter, how far up the collection system does NPDES jurisdiction reach, i.e., where does the "collection system" end and the "user" begin?

NPDES jurisdiction extends beyond the treatment plant to the outer boundary of the municipallyowned sewage collection systems, which are defined as sewers whose purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment, as explained below.

As discussed in response to Question 1 above, the term "treatment works" is defined to include "sewage collection systems." CWA § 212. In order to define the extent of the sewage collection system for purposes of co-permittee regulation—*i.e.*, to identify the boundary between the portions of the collection system that are subject to NPDES requirements and those that are not—Region 1 is relying on EPA's regulatory interpretation of the term "sewage collection system." In relevant part, EPA regulations define "sewage collection system" at 40 C.F.R. § 35.905 as:

".... each, and all, of the common lateral sewers, within a publicly owned treatment system, which are primarily installed to receive waste waters directly from facilities which convey waste water from individual structures or from private property and which include service connection "Y" fittings designed for connection with those facilities. The facilities which convey waste water from individual structures, from private property to the public lateral sewer, or its equivalent, are specifically excluded from the definition...."

Put otherwise, a municipal satellite collection system is subject to NPDES jurisdiction under the Region's approach insofar as its purpose is to be a common carrier of wastewater for others to a POTW treatment plant for treatment. The use of this primary purpose test (i.e., common sewer installed as a recipient and carrier waste water from others) allows Region 1 to draw a principled, predictable and readily ascertainable boundary between the POTW's collection system and user. This test would exclude, for example, branch drainpipes that collect and transport wastewater from fixtures in a commercial building or public school to the common lateral sewer. This type

treatment plant" will be used to designate that portion of the municipal system which is actually designed to provide treatment to the wastes received by the municipal system."

⁸ See, e.g., United States v. Borowski, 977 F.2d 27, 30 n.5 (1st Cir. 1992) ("We read this language [POTW definition] to refer to such sewers, pipes and other conveyances that are publicly owned. Here, for example, the City of Burlington's sewer is included in the definition because it conveys waste water to the Massachusetts Water Resource Authority's treatment works."); *Shanty Town Assoc. v. Envtl. Prot. Agency*, 843 F.2d 782, 785 (4th Cir. 1988) ("As defined in the statute, a 'treatment work' need not be a building or facility, but can be any device, system, or other method for treating, recycling, reclaiming, preventing, or reducing liquid municipal sewage and industrial waste, including storm water runoff.") (citation omitted); *Comm. for Consideration Jones Fall Sewage System v. Train*, 375 F. Supp. 1148, 1150-51 (D. Md. 1974) (holding that NPDES wastewater discharge permit coverage for a wastewater treatment plant also encompasses the associated sanitary sewer system and pump stations under § 1292 definition of "treatment work").

of infrastructure would not be considered part of the collection system, because it is not designed to be a common recipient and carrier of wastewaters from other users. Rather, it is designed to transport its users' wastewater to such a common collection system at a point further down the sanitary sewer system.

EPA's reliance on the definition of "sewage collection system" from outside the NPDES regulations for interpretative guidance is reasonable as the construction grants regulations at 40 C.F.R. Part 35, subpart E pertain to grants for POTWs, the entity that is the subject of this NPDES policy. Additionally, the term "sewage collection systems" expressly appears in the definition of treatment works under section 212 of the Act as noted above. Finally, this approach is also consistent with EPA's interpretation in other contexts, such as the SSO listening session notice, published in the Federal Register on June 1, 2010, which describes wastewater collection systems as those that "collect domestic sewage and other wastewater from homes and other buildings and convey it to wastewater sewage treatment plants for proper treatment and disposal." *See* "Municipal Sanitary Sewer Collection Systems, Municipal Satellite Collection Systems, Sanitary Sewer Overflows, and Peak Wet Weather Discharges From Publicly Owned Treatment Works Treatment Plants Serving Separate Sanitary Sewer Collection Systems," 75 Fed. Reg. 30395.⁹

(3) Do municipal satellite collection systems "discharge [] a pollutant" within the meaning of the statute and regulations?

Yes, because they are a part of the POTW, municipal satellite collection systems discharge pollutants to waters of the United States through one or more outfalls (point sources).

The "discharge of a pollutant," triggers the need for a facility to obtain an NPDES permit. A POTW "discharges [] pollutant[s]" if it adds pollutants from a point source to waters of the U.S. (See 40 C.F.R. § 122.2, section (a) of the definition of "discharge of a pollutant.") As explained above, municipal satellite collection systems are part of the POTW. The entire POTW is the entity that discharges pollutants to waters of the U.S. through point source outfalls typically located at the treatment plant but also occasionally through other outfalls within the overall system. The fact that a collection system may be located in the upstream portions of the POTW and not necessarily near the ultimate discharge point at the treatment plant is not material to the question of whether it "discharges" a pollutant and consequently may be subject to conditions of an NPDES permit issued for discharges from the POTW.

⁹ That EPA has in the past looked for guidance from Part 35 when construing the NPDES permitting program, for instance, in the context of storm water permitting, provides further support to the Region that its practice in this regard is sound. *See, e.g.*, "National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges," 55 Fed. Reg. 47990, 47955 (looking to the definition of "storm sewer" at 40 C.F.R. § 35.2005(b)(47) when defining "storm water" under the NDPES program).

¹⁰ This position differs from that taken by the Region in the *Upper Blackstone* litigation. There, the Region argued that the treatment plant was the sole discharging entity for regulatory purposes. The Region has revised this view upon further consideration of the statute, regulations and case law and determined that the POTW as a whole is the discharging entity.

"Discharge of a pollutant" at 40 C.F.R. § 122.2 is also defined to include "... discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person *which do not lead to a treatment works.*" (emphasis added). Some municipal collection systems have argued that this sentence means that only municipal discharges that do not lead to a "treatment plant" fall within the scope of "discharge of a pollutant." They further argue that because discharges through satellite collection systems do lead to a treatment plant, such systems do not "discharge [] pollutant[s]" and therefore are not subject to the NPDES permit requirements. This argument is flawed in that it incorrectly equates "treatment works," the term used in the definition above, with "treatment plant." To interpret "treatment works" as it appears in the regulatory definition of "discharge of a pollutant" as consisting of only the POTW treatment plant would be inconsistent with the definition of "treatment works" at 40 C.F.R. § 403.3(q), which expressly includes the collection system. *See also* § 403.3(r) (defining "POTW Treatment Plant" as "*that portion* [emphasis added] of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste").

(4) Are municipal satellite collection systems "indirect dischargers" and thus excluded from NPDES permitting requirements?

No, municipal satellite collection systems are part of the POTW, not "indirect dischargers" to the POTW.

Section 307(b) of the Act requires EPA to establish regulatory pretreatment requirements to prevent the "introduction of pollutants into treatment works" that interfere, pass through or are otherwise incompatible with such works. Section 307 is implemented through the General Pretreatment Regulations for Existing and New Sources of Pollution (40 C.F.R. Part 403) and categorical pretreatment standards (40 C.F.R. Parts 405-471). Section 403.3(i) defines "indirect discharger" as "any non-domestic" source that introduces pollutants into a POTW and is regulated under pretreatment standards pursuant to CWA § 307(b)-(d). The source of an indirect discharge is termed an "industrial user." *Id.* at § 403.3(j). Under regulations governing the NPDES permitting program, the term "indirect discharger" is defined as "a non-domestic discharger introducing 'pollutants' to a 'publicly owned treatment works." 40 C.F.R. § 122.2. Indirect dischargers are excluded from NPDES permit requirements by the indirect discharger rule at 40 C.F.R. § 122.3(c), which provides, "The following discharges do not require an NPDES permit: . . . The introduction of sewage, industrial wastes or other pollutants into publicly owned treatment works."

Municipal satellite collection satellite systems are not indirect dischargers as that term is defined under part 122 or 403 regulations. Unlike indirect dischargers, municipal satellite collection systems are not "introducing pollutants" to POTWs under 40 C.F.R. § 122.2; they are, instead, part of the POTW by definition. Similarly, they are not a non-domestic *source* that introduces pollutants into a POTW within the meaning of § 403.3(j), but as part of the POTW collect and convey municipal sewage from industrial, commercial and domestic users of the POTW.

The Region's determination that municipal satellite collection systems are not indirect dischargers is, additionally, consistent with the regulatory history of the term indirect discharger.

The 1979 revision of the part 122 regulations defined "indirect discharger" as "a non-municipal, non-domestic discharger introducing pollutants to a publicly owned treatment works, which introduction does not constitute a 'discharge of pollutants'..." *See* National Pollutant Discharge Elimination System, 44 Fed. Reg. 32854, 32901 (June 7, 1979). The term "non-municipal" was removed in the Consolidated Permit Regulations, 45 Fed. Reg. 33290, 33421 (May 19, 1980) (defining "indirect discharger" as "a nondomestic discharger..."). Although the change was not explained in detail, the substantive intent behind this provision remained the same. EPA characterized the revision as "minor wording changes." 45 Fed. Reg. at 33346 (Table VII: "Relationship of June 7[, 1979] Part 122 to Today's Regulations"). The central point again is that under any past or present regulatory incarnation, municipal satellite collection systems, as POTWs, are not within the definition of "indirect discharger," which is limited to dischargers that introduce pollutants to POTWs.

The position that municipal satellite collection systems are part of, rather than discharge to, the POTW also is consistent with EPA guidance. EPA's 1994 Multijurisdictional Pretreatment Programs Guidance Manual, (EPA 833-B94-005) (June 1994), at p. 19, asserts that EPA has the authority to require municipal satellite collection systems to develop pretreatment programs by virtue of their being part of the POTW.

(5) How is the Region's rationale consistent with the references to "municipality" in the regulatory definition of POTW found at 40 C.F.R. § 403.3(q), and the definition's statement that "[t]he term also means the municipality....which has jurisdiction over the Indirect Discharges to and the discharges from such a treatment works?"

There is no inconsistency between the Region's view that municipally-owned satellite collection systems are part of a POTW, and the references to municipality in 40 C.F.R. § 403.3(q), including the final sentence of the regulatory definition of POTW in the pretreatment regulations.

The Region's co-permitting rationale is consistent with the first part of the pretreatment program's regulatory definition of POTW, because the Region is only asserting NPDES jurisdiction over satellite collection systems that are owned by a "State or municipality (as defined by section 502(4) of the Act)." The term "municipality" as defined in CWA § 502(4) "means a city, town, borough, county, parish, district, association, or other public body created by or pursuant to State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes..." Thus, in order to qualify under this definition, a wastewater collection system need only be "owned by a State or municipality." There is no requirement that the constituent components of a regionally integrated POTW, *i.e.*, the collection system and regional centralized POTW treatment plant, be owned by the same State or municipal entity.

Furthermore, there is no inconsistency between the Region's view that a satellite collection system is part of a POTW, and the final sentence of the regulatory definition of POTW in the pretreatment regulations. As noted above, the sentence provides that "POTW" may "also" mean a municipality which has jurisdiction over indirect discharges to and discharges from the treatment works. This is not a limitation because of the use of the word "also" (contrast this with the "only if" language in the preceding sentence of the regulatory definition).

(6) How does the Region's rationale comport with the permit application and signatory requirements under NPDES regulations?

EPA's authority to require municipal satellite collection systems to separately comply with the permit application requirements, or to provide waivers from these requirements where appropriate, is consistent with NPDES regulations, which provide that all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed, and municipal satellite collection systems are part of the POTW.

EPA has the authority to require municipal satellite collection systems to submit permit applications. These entities are operators of parts of the POTW. NPDES regulations characterize the operator "of the POTW" (which by definition includes the sewage collection system) as opposed to the operator "of the POTW treatment plant" as an appropriate applicant. *Id.* § 122.21(a), (requiring applicants for "new and existing POTWs" to submit information required in 122.21(j)," which in turn requires "all POTWs," among others, to provide permit application information). This reading of the regulation is in keeping with the statutory text, which subjects the POTW writ large to the secondary treatment and water quality-based requirements. *See* CWA § 301(b)(1)(B), (C). In fact, the NPDES permit application for POTWs solicits information concerning portions of the POTW beyond the treatment plant itself, including the collection system used by the treatment works. *See* 40 C.F.R. 122.21(j)(1).

Notwithstanding that EPA could require applications for all the municipal satellite collection systems, requiring such applications may result in duplicative or immaterial information. The Regional Administrator ("RA") may waive any requirement of this paragraph if he or she has access to substantially identical information. 40 C.F.R. § 122.21(j). *See generally*, 64 Fed. Reg. 42440 (August 4, 1999). The RA may also waive any application requirement that is not of material concern for a specific permit. Region 1 believes that it will typically receive information sufficient for NPDES permitting purposes from the POTW treatment plant operator's application.

In most cases, EPA Region 1 believes that having a single permit application from the POTW treatment plant operator will be more efficient in carrying out the regulation's intent than multiple applications from the satellite systems. (The treatment plant operator would of course be required to coordinate as necessary with the constituent components of the POTW to ensure that the information provided to EPA is accurate and complete). EPA Region 1 therefore intends to issue waivers to exempt municipal satellite collection systems from permit application and signatory requirements in accordance with 40 C.F.R. § 122.21(j). To the extent the Region requires additional information, it intends to use its information collection authority under CWA § 308.

IV. Basis for the Specific Conditions to which the Municipal Satellite Collection Systems are Subject as Co-permittees

The legal authority for extending NPDES conditions to all portions of the municipally-owned treatment works to ensure proper operation and maintenance and to reduce the quantity of extraneous flow into the POTW is Section 402(a) of the CWA. This section of the Act authorizes EPA to issue a permit for the "discharge of pollutants" and to prescribe permit conditions as necessary to carry out the provisions of the CWA, including Section 301 of the Act. Among other things, Section 301 requires POTWs to meet performance-based requirements based on secondary treatment technology, as well as any more stringent requirements of State law or regulation, including water quality standards. *See* CWA § 301(b)(1)(B),(C).

The co-permittee requirements are required to assure continued achievement of secondary treatment requirements and water quality standards in accordance with sections 301 and 402 of the Act and to prevent unauthorized discharges of sewage from collection systems. With respect to secondary treatment, the inclusion of the satellite systems as co-permittees is necessary because high levels of I/I dilute the strength of influent wastewater and increase the hydraulic load on treatment plants, which can reduce treatment efficiency (*e.g.*, result in violations of technology-based percent removal limitations for BOD and TSS due to less concentrated influent, or violation of other technology effluent limitations due to reduction in treatment efficiency), lead to bypassing a portion of the treatment process, or in extreme situations make biological treatment facilities inoperable (*e.g.*, wash out the biological organisms that treat the waste).

As to water quality standards, the addition of the satellite systems as co-permittees is necessary to ensure collection system operation and maintenance, which will reduce extraneous flow entering the system and free up available capacity. This will facilitate compliance with water quality-based effluent limitations—made more difficult by reductions in treatment efficiency and also reduce water quality standard violations that result from the occurrence of SSOs. *See Exhibits B* (Municipal satellite collection systems with SSOs) and *C* (Analysis of extraneous flow trends for representative systems). SSOs that reach waters of the U.S. are discharges in violation of section 301(a) of the CWA to the extent not authorized by an NPDES permit.

Subjecting portions of an NPDES-regulated entity upstream of the ultimate discharge point is consistent with EPA's interpretation of the CWA in other contexts. For example, it is well established that EPA has the ability to apply discharge limitations and monitoring requirements to internal process discharges, rather than to outfalls, on the grounds that compliance with permit limitations "may well involve controls applied at points other than the ultimate point of discharge." *See Decision of the General Counsel No. 27 (In re Inland Steel Company)*, August 4, 1975 ("Limitations upon internal process discharges are proper, if such discharges would ultimately be discharged into waters of the United States, and if such limitations are necessary to carry out the principal regulatory provisions of the Act."). In the case of regionally integrated POTWs, placing conditions on satellite collection systems—though located farther up the system than the point of discharge—is a logical implication of the regulations and serves to effectuate the statute.

Without imposing conditions on the satellite communities, standard permit conditions applicable to all NPDES permits by regulation cannot be given full effect. To illustrate, there is no dispute

that the operator of the POTW treatment plant and outfall is discharging pollutants within the meaning the CWA and, accordingly, is subject to the NPDES permit program. NPDES permitting regulations require standard conditions that "apply to all NPDES permits," pursuant to 40 C.F.R. § 122.41, including a duty to mitigate and to 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 the permit." Id. at § 122.41(d), (e). EPA regulations also require additional conditions applicable to specified categories of NPDES permit, including "Publicly owned treatment works." See id. at § 122.42(b). A municipal satellite collection system, as demonstrated above, falls within the regulatory definition of a POTW. In light of EPA's authority to require appropriate operation and maintenance of collection systems necessary to achieve compliance with an NPDES permit, and because the operator of the POTW treatment plant may not own or operate a significant portion of the wider treatment works (*i.e.*, the collection systems that send flow to the POTW treatment plant), it is appropriate, and in some cases necessary, to extend pertinent, mandated standard conditions to all portions of the POTW, which is subject to regulation in its entirety. The alternative of allowing state and local jurisdictional boundaries to place significant portions of the POTW beyond the reach of the NPDES permitting program would not only be inconsistent with the broad statutory and regulatory definition of the term POTW but would impede Region 1 from carrying out the objectives of the CWA. It would also, illogically, preclude the Region from imposing on POTWs standard conditions EPA has by regulation mandated for those entities.

Other Considerations Informing EPA Region 1's Decision to Use a Co-permittee Permitting Structure for Regionally Integrated POTWs

In addition to consulting the relevant statutes, regulations, and preambles, Region 1 also considered other EPA guidance in coming to its determination to employ a co-permittee structure for regionally integrated POTWs. EPA's 1994 Multijurisdictional Pretreatment Programs Guidance Manual, p. 19, asserts that EPA has the authority to include municipal satellite collection systems as co-permittees by virtue of their being part of the POTW:

If the contributing jurisdiction owns or operates the collection system within its boundaries, then it is a co-owner or operator of the POTW. As such, it can be included on the POTW's NPDES permit and be required to develop a pretreatment program. Contributing jurisdictions should be made co-permittees where circumstances or experience indicate that it is necessary to ensure adequate pretreatment program implementation.

The same logic that led EPA to conclude it had authority to require municipal satellite collection systems to develop a pretreatment program pursuant to an NPDES permit supports EPA Region 1's decision to impose permit conditions on such facilities to undertake proper O & M and to reduce inflow and infiltration.

EPA Region 1 also took notice of federal listening session materials on the June 2010 proposed SSO rule and associated model permits and fact sheet. The position articulated by EPA in these

model documents—specifically the application of standard NPDES conditions to municipal satellite collection systems—generally conform to Region 1's co-permitting approach.

Finally, in addition to federal requirements, EPA Region 1 considered the co-permittee approach in light of state regulations and policy pertaining to wastewater treatment works. The Region found its approach to be consistent with such requirements. Under Massachusetts law, "Any person operating treatment works shall maintain the facilities in a manner that will ensure proper operation of the facilities or any part thereof," where "treatment works" is defined as "any and all devices, processes and properties, real or personal, used in the collection, pumping, transmission, storage, treatment, disposal, recycling, reclamation or reuse of waterborne pollutants, but not including any works receiving a hazardous waste from off the site of the works for the purpose of treatment, storage or disposal, or industrial wastewater holding tanks regulated under 314 CMR 18.00" *See* 314 CMR 12.00 ("Operation and Maintenance and Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers"). MassDEP has also prioritized this area, issuing detailed operation and maintenance guidelines entitled "Optimizing Operation, Maintenance and Rehabilitation of Sanitary Sewer Collection Systems."

<u>Exhibit A</u>

Name	Issue Date
Massachusetts Water Resources Authority – Clinton (NPDES Permit No. MA0100404)	September 27, 2000
City of Brockton (NPDES Permit No. MA0101010)	May 11, 2005
City of Marlborough (NPDES Permit No. MA0100480)	May 26, 2005
Westborough Wastewater Treatment Plant (NPDES Permit No. MA0100412)	May 20, 2005
Lowell Regional Wastewater Utilities (NPDES Permit No. MA0100633)	September 1, 2005
Town of Webster Sewer Department (NPDES Permit No. MA0100439)	March 24, 2006
Town of South Hadley, Board of Selectmen (NPDES Permit No. MA0100455)	June 12, 2006
City of Leominster (NPDES Permit No. MA0100617)	September 28, 2006
Hoosac Water Quality District (NPDES Permit No. MA0100510)	September 28, 2006
Board of Public Works, North Attleborough (NPDES Permit No. MA0101036)	January 4, 2007
Town of Sunapee (NPDES Permit No. 0100544)	February 21, 2007
Lynn Water and Sewer Commission (NPDES Permit No. MA0100552)	March 3, 2007
City of Concord (NPDES Permit No. NH0100331)	June 29, 2007
City of Keene (NPDES Permit No. NH0100790)	August 24, 2007
Town of Hampton (NPDES No. NH0100625)	August 28, 2007
Town of Merrimack, NH (NPDES No. NH0100161)	September 25, 2007
City of Haverhill (NPDES Permit No. MA0101621)	December 5, 2007
Greater Lawrence Sanitary District (NPDES Permit No. MA0100447)	August 11, 2005
City of Pittsfield, Department of Public Works (NPDES No.	August 22, 2008

MA0101681)	
City of Manchester (NPDES No. NH0100447)	September 25, 2008
City of New Bedford (NPDES Permit No. MA0100781)	September 28, 2008
Winnipesaukee River Basin Program Wastewater Treatment Plant (NPDES Permit No. NH0100960)	June 19, 2009
City of Westfield (NPDES Permit No. MA0101800)	September 30, 2009
Hull Permanent Sewer Commission (NPDES Permit No. MA0101231)	September 1, 2009
Gardner Department of Public Works (NPDES Permit No. MA0100994)	September 30, 2009

<u>Exhibit B</u>

I/I Flow Analysis for Sample Regional Publicly Owned Treatment Works

I. <u>Representative POTWS</u>

The **South Essex Sewer District (SESD)** is a regional POTW with a treatment plant in Salem, Massachusetts. The SESD serves a total population of 174,931 in six communities: Beverly, Danvers, Marblehead, Middleton, Peabody and Salem. The **Charles River Pollution Control District (CRPCD)** is a regional POTW with a treatment plant in Medway, Massachusetts. The CRPCD serves a total population of approximately 28,000 in four communities: Bellingham, Franklin, Medway and Millis. Both of these facilities have been operating since 2001 under permits that place requirements on the treatment plant to implement I/I reduction programs with the satellite collection systems, in contrast to Region 1's current practice of including the satellite collection systems as co-permittees.

II. Comparison of flows to standards for nonexcessive infiltration and I/I

Flow data from the facilities' discharge monitoring reports (DMRs) are shown in comparison to the EPA standard for nonexcessive infiltration/inflow (I/I) of 275 gpcd wet weather flow and the EPA standard for nonexcessive infiltration of 120 gallons per capita per day (gpcd) dry weather flow; the standards are multiplied by population served for comparison with total flow from the facility. See *I/I Analysis and Project Certification*, EPA Ecol. Pub. 97-03 (1985); 40 CFR 35.2005(b)(28) and (29).

Figures 1 and 2 show the Daily Maximum Flows (the highest flow recorded in a particular month) for the CRPCD and SESD, respectively, along with monthly precipitation data from nearby weather stations. Both facilities experience wet weather flows far exceeding the standard for nonexcessive I/I, particularly in wet months, indicating that these facilities are receiving high levels of inflow and wet weather infiltration.





Figure 2. SESD Daily Maximum Flow Compared to Nonexcessive I/I Standard



Figures 3 and 4 shows the Average Monthly Flows for the CRPCD and SESD, which exceed the nonexcessive infiltration standard for all but the driest months. This indicates that these systems experience high levels of groundwater infiltration into the system even during dry weather.

Figure 3. CRPCD Monthly Average Flow Compared to Nonexcessive Infiltration Standard




Figure 4. SESD Monthly Average Flow Compared to Nonexcessive Infiltration Standard

II. Flow Trends

Figures 5 and 6 show the trend in Maximum Daily Flows over the period during which these regional facilities have been responsible for implementing cooperative I/I reduction programs with the satellite collection systems. The Maximum Daily Flow reflects the highest wet weather flow for each month. The trend over this time period has been of increasing Maximum Daily Flow, indicating that I/I has not been reduced in either system despite the permit requirements.

Figure 5. CRPCD Daily Maximum Flow Trend



Figure 6. SESD Daily Maximum Flow Trend



III. Violations Associated with Wet Weather Flows

Both the CRPCD and SESD have experienced permit violations that appear to be related to I/I, based on their occurrence during wet weather months when excessive I/I standards are exceeded. Figure 7 shows violations of CRPCD's effluent limits for CBOD (concentration) and TSS (concentration and percent removal). Twelve of the sixteen violations occurred during months when daily maximum flows exceeded the EPA standard.

Figure 7. CRPCD CBOD and TSS Effluent Limit Violations



Figure 8 shows SESD's results for removal of CBOD, in percentage, as compared to maximum daily flow. SESD had three permit violations where CBOD removal fell below 85%, all during months with high Maximum Daily Flows.



Figure 8. SESD CBOD Percent Removal

In addition, both of these regional POTWs have experienced SSOs within the municipal satellite collection systems. In the SESD system, Beverly, Danvers, Marblehead and Peabody have reported SSOs between 2006 and 2008, based on data provided by MassDEP. In the CRPCD system, both Franklin and Bellingham have reported SSOs between 2006 and 2009.

<u>Exhibit C</u>

List of municipal satellite collection systems that have had SSOs

<u>Exhibit D</u>

Form of Regional Administrator's waiver of permit application requirements for municipal satellite collection systems



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 1 1 CONGRESS STREET, SUITE 1100 BOSTON, MASSACHUSETTS 02114-2023

Re: Waiver of Permit Application and Signatory Requirements for [Municipal Satellite Sewage Collection System]

Dear ____:

Under NPDES regulations, all POTWs must submit permit application information set forth in 40 C.F.R. § 122.21(j) unless otherwise directed. Where the Region has "access to substantially identical information," the Regional Administrator may waive permit application requirements for new and existing POTWs. *Id.* Pursuant to my authority under this regulation, I am waiving NPDES permit application and signatory requirements applicable to the above-named municipal satellite collection systems.

Although EPA has the authority to require municipal satellite collection systems to submit individual permit applications, in this case I find that requiring a single permit application executed by the regional POTW treatment plant owner/operator will deliver "substantially identical information," and will be more efficient, than requiring separate applications from each municipal satellite collection system owner/operator. Municipal satellite collection system owners/operators are expected to consult and coordinate with the regional POTW treatment plant operators to ensure that any information provided to EPA about their respective entities is accurate and complete. In the event that EPA requires additional information, it may use its information collection authority under CWA § 308. 33 U.S.C. § 1318.

This notice reflects my determination based on the specific facts and circumstances in this case. It is not intended to bind the agency in future determinations where a separate permit for municipal satellites would not be duplicative or immaterial.

If you have any questions or would like to discuss this decision, please contact [EPA Contact] at [Contact Info].

Sincerely,

Regional Administrator

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY NEW ENGLAND - REGION I 5 POST OFFICE SQUARE, SUITE 100 BOSTON, MA 02109-3912

FACT SHEET

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

NPDES PERMIT NO: MA0100404

NAME AND ADDRESS OF PERMITTEE:

Massachusetts Water Resources Authority Charlestown Navy Yard 100 First Avenue Boston, MA 02129

The Towns of Clinton and Lancaster are co-permittees for specific activities required by the permit. See Section VI of this fact sheet and Sections I.C. and I.D. of the draft permit. The responsible municipal departments are:

Town of Clinton Department of Public Works 242 Church Street Clinton, MA 01510 Lancaster Sewer District P.O. Box 773 226 Main Street South Lancaster, MA 01561

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Massachusetts Water Resources Authority Clinton Wastewater Treatment Facility 677 High Street Clinton, MA 01510

RECEIVING WATERS:	South Branch Nashua River (MA81-09)
CLASSIFICATION:	Class B - Warm Water Fishery

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I. PROPOSED ACTION

The above named applicant has applied to the U.S. Environmental Protection Agency for the reissuance of its National Pollutant Discharge Elimination System (NPDES) permit to discharge into the designated receiving water. The co-permittees discharge wastewater to the treatment plant owned and operated by the applicant. The current permit was signed on September 27, 2000 and became effective sixty (60) days later. The permit expired November 26, 2005. A reapplication was received on May 27, 2005. The draft permit proposes an expiration date five (5) years from the effective date of the final permit.

II. TYPE OF FACILITY AND DISCHARGE LOCATION

The Massachusetts Water Resources Authority (MWRA) owns and operates the Clinton Wastewater Treatment Plant (WWTP) as part of an agreement with the Town of Clinton. In exchange for taking land to be flooded by the Wachusett Reservoir, MWRA supplies Clinton with water and treats Clinton's wastewater The Lancaster Sewerage District also contributes a small flow to the facility. The facility is an advanced wastewater treatment plant with a permitted flow of 3.01 million gallons per day (MGD), which discharges to the South Branch of the Nashua River (Figure 1 Location Map). The WWTP serves a population of approximately 14,500 in Clinton and approximately 1,500 in Lancaster.

The facility=s discharge outfalls are listed below:

<u>Outfall</u>	Description of Discharge	Receiving Water
001	Treated Effluent	South Nashua River

The Towns of Clinton and Lancaster Sewer District own and operate the collection system, with the exception of an approximately one-mile MWRA-owned interceptor sewer line that delivers wastewater to the WWTP. The collection system is 100% separate sanitary sewers. Since 2004, there have been three sanitary sewer overflows (SSOs) reported in the Town of Clinton, two of which occurred on the Weetabix property. No SSOs have been reported in the MWRA or Lancaster Sewer District collection systems.

III. DESCRIPTION OF DISCHARGE

Quantitative descriptions of the discharge in terms of significant effluent parameters, based on discharge monitoring reports (DMRs) submitted for January 2007 through December 2009, are shown in Appendix A of this fact sheet.

IV. LIMITATIONS AND CONDITIONS

The effluent limitations and monitoring requirements may be found in the draft NPDES permit.

V. PERMIT BASIS AND EXPLANATION OF EFFLUENT LIMITATION DERIVATION

A. PROCESS DESCRIPTION

The facility is an advanced activated sludge facility with year-round sodium hypochlorite disinfection and dechlorination. The facility discharges to the South Nashua River. The facility has a previously permitted flow of 3.01 MGD. In addition to the sanitary sewer flow, there are two non-categorical significant industrial dischargers users: Weetabix (non-categorical) and Central Mass Powder Coating (non-discharging metal finishing operation).

The following is a brief description of the treatment process (See Figure 2 Clinton Treatment Plant Flow Schematic): A mechanical bar screen and bar rack remove grit screenings and large floatables. Wastewater then flows into an aerated grit tank for grit removal. Collected grit is then transported to the MWRA owned landfill and covered. Grit removal is followed by primary settling and scum removal. These processes are accomplished in four primary settling tanks, where smaller floating and settleable solids are removed. Four trickling filters are available for use in initial secondary treatment. Wastewater then flows into three of six available aeration tanks where activated sludge biological treatment occurs. Nitrification also occurs in the aeration tanks. Soda ash (sodium carbonate) is used to regulate the alkalinity of the activated sludge. After biological treatment, wastewater flows to three clariflocculators, which remove biological solids. Polymers and coagulants (sodium aluminate) are added to the clariflocculators to enhance solids removal and achieve the required level of phosphorus removal. Secondary effluent is then disinfected with sodium hypochlorite, dechlorinated with sodium bisulfite, and the final effluent discharged over aeration steps into the South Nashua River.

Sludge from the primary and secondary tanks is co-thickened in a gravity thickener. The sludge then is pumped to an anaerobic digester, which provides pathogen and volume reduction. The methane gas produced in this process is recovered and used to heat the digesters and dewatering/ maintenance building. Sludge is dewatered on one of two a belt filter presses then transported to an MWRA-owned landfill where it is further processed by mixing with a clean fill bulking agent and applied to the banks of the landfill and covered with a clean fill cover. The landfill was constructed with a double liner system to protect groundwater resources. It contains two separate leachate collection systems to collect and pump the leachate back to the sewer system for treatment at the plant.

B. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. Overview of Federal and State Regulations

Under Section 301(b)(1)(B) of the Clean Water Act (CWA), publicly owned treatment works (POTWs) must have achieved effluent limitations based upon Secondary Treatment by July 1, 1977. Secondary treatment requirements are set forth at 40 C.F.R. Part 133.102. In addition, Section 301(b)(1)(C) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to

achieve state or federal water quality standards that are applicable to the designated receiving water.

Pursuant to 40 C.F.R. '122.44 (d), permittees must achieve water quality standards established under Section 303 of the Clean Water Act (CWA), including state narrative criteria for water quality. Additionally, under 40 C.F.R. '122.44 (d)(1)(i), "Limitations must control all pollutants or pollutant parameters which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." When determining whether a discharge causes, or has the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numeric criterion, the permitting authority shall use procedures which account for existing controls on point and non-point sources of pollution, and where appropriate, consider the dilution of the effluent in the receiving water.

2. Water Quality Standards; Designated Use; Outfall 001

The South Nashua River in the vicinity of the discharges is classified in the Massachusetts Surface Water Quality Standards (314 CMR 4.00) as a Class B-warm water fishery. Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, and for primary and secondary contact recreation. They shall be suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses and should have consistently good aesthetic value.

A warm water fishery is defined in the Massachusetts Surface Water Quality Standards (314 CMR 4.02) as waters in which the maximum mean monthly temperature generally exceeds 20 Celsius (68 diffing the stimmer months and are not capable of supporting a yearround population of cold water stenothermal aquatic life.

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those waterbodies 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 (TMDL). The segment of the South Nashua River from the Clinton WWTP to its confluence with the North Nashua River in Lancaster (MA81-09) is listed on the Massachusetts 2008 Integrated List of Waters (303d) as impaired and requiring the development of a TMDL. The listed impairments for this segment are nutrients and pathogens. Immediately upstream of the Clinton WWTP (MA81-08), the listed impairments for the river segment are unknown toxicity and pathogens. The specific cause(s) of these impairments are unknown.

The MassDEP 2003 <u>Water Quality Assessment Report for the Nashua River</u>, which is the basis for the 303(d) list, notes that the receiving water segment (MA81-09) does not support primary contact recreational use due to *E. coli* and is on alert status for high phosphorus concentrations.

3. Available Dilution

Water quality criteria in the receiving water must be met after accounting for dilution under low flow conditions. The Massachusetts Water Quality Standards (MA WQS) (310 CMR 4.00) dictate how available dilution is determined for receiving waters.

A comparison between the total dam release, which includes the daily variable release, a release to Lancaster Mills, and dam seepage; and the USGS gage shows that the watershed between the dam and the Clinton WWTP adds no additional flow to the Nashua River.

The flow of the South Nashua River at the Clinton WWTP is controlled by the Wachusett Dam, which is located 3.2 miles upstream of the treatment plant. 314 CMR 4.03(3)(b) requires that:

In waters where flows are regulated by dams or similar structures, the lowest flow condition at which aquatic life criteria must be applied is the flow equaled or exceeded 99% of the time on a yearly basis, or another equivalent flow agreed upon by the Department and the federal, state or private entity controlling the flow. The minimum flow established in such an agreement will become the critical low flow for those waters covered by the agreement.

In a letter dated June 5, 2009, MWRA requested a revision in the critical low flow for the Nashua River from 2.785 cfs (cubic feet per second) to 4.27 cfs based on flow measurements at a US Geological Survey (USGS) gage upstream of the Clinton WWTP. However, a comparison of data from the USGS gage upstream of the WWTP to the water released from the dam shows that there is no significant streamflow addition (i.e. from baseflow or tributaries) between the dam and the WWTP discharge. On some dry weather days, the river flow is actually lower than MWRA's stated dam releases, perhaps due to evaporative losses or absorption into the river banks. EPA is not granting the request to increase the receiving water critical low flow, based on lack of evidence that the Nashua River flow is consistently greater than the minimum flow released from the Wachusett Dam.

The dilution has been calculated using the minimum dam release. MWRA is obligated by state law to release at least 12 million gallons per week from the Wachusett Dam (though it often releases higher volumes to manage water levels in the Wachusett Reservoir). This number can be converted to MGD as follows:

Flow (MGD) =
$$\frac{12 \text{ million gallons}}{1 \text{ week}}$$
 x $\frac{1 \text{ week}}{7 \text{ days}}$ = 1.7 MGD

The draft permit uses the 1.7 MGD as the critical low flow in accordance with the above excerpt from the Massachusetts MA WQS. This corrects the previous permit, which used 1.8 MGD as the critical low flow.

The dilution factor can then be calculated as follows:

<u>River flow (release from Wachusett Dam) + Daily permitted flow</u> = Dilution factor Daily permitted flow

WWTP Permitted Flow = 3.01 MGD Nashua River Critical Low Flow = 1.7 MGD

Dilution factor = 3.01 MGD + 1.7 MGD = 1.56, or 1.6 3.01 MGD

Therefore, the dilution factor is 1.6.

EPA notes that although the Clinton WWTP has a relatively low dilution factor, this factor is within MWRA's control. The minimum release from the Wachusett Reservoir to the Nashua River could be raised by increasing the flow through the fountain or by releasing more water over the spillway.

In communications with EPA, MWRA has indicated that it is considering releasing more flow into the Nashua River from the Wachusett Dam. EPA encourages MWRA to continue these deliberations, as it will confer the positive effects mentioned above. If a formal agreement is reached, and it significantly changes the dilution factor, EPA will consider this new information, for purposes of either revising the draft permit (if the information is received prior to the final permit decision), or modifying the permit (if the information is received after the final permit decision).

4. Effluent Flow

Due to excessive I/I (infiltration/inflow – See Section VI of this document) in the Clinton collection system, the Clinton WWTP has regularly (i.e. 29 of the last 36 months) exceeded its permitted flow rate of 3.01 MGD, calculated as a 12-month rolling average. In 2000, MWRA relined its sewer interceptor and manholes to eliminate I/I in its portion of the collection system. However, there continues to be a large quantity of I/I in the Clinton collection system as shown by a comparison of average daily influent flows¹ for a dry month and a wet month in 2008. In April 2008, average daily influent flow was 3.68 million gallons, while in August 2008, during the dry season, average daily influent flow was 2.69 million gallons. Even this lower number includes some inflow/infiltration, as MWRA estimates that daily sanitary sewage flow from Clinton and Lancaster is only 1.6 million gallons.² MassDEP issued an Administrative Consent Order (ACO) on July 3, 1985 establishing a Sewer Bank for Clinton and Lancaster. Every gallon per day of new sewer construction must be offset by 2 gallons per day of I/I removal. Clinton increased this ratio in 2006 to 3 gallons I/I removed for every gallon of increased flow. Unfortunately, it does not appear that this arrangement has been effective for reducing high wet weather flows to Clinton WWTP.

¹ Average daily influent flow, as reported in Clinton MWRA's Monthly Operations Report submitted to MassDEP and EPA, should be distinguished from the 12-month rolling average flow reported in Clinton MWRA's Discharge Monitoring Reports.

² From MWRA I/I report dated January 30, 2009

In a letter dated June 5, 2009, MWRA requested a revision in the permitted flow for the Clinton WWTP from 3.01 MGD to 3.65 MGD. EPA is not granting the request at this time, because it appears that the current flow limit could be achieved by a serious effort to control I/I. Furthermore, the treatment plant flow represents a significant percentage of the receiving water dry weather flow as evidenced by the low dilution factor. An effluent flow limit increase would raise serious issues relative to consistency with water quality standards, including antidegradation provisions.

The draft permit carries forward the limit in the current permit, which is 3.01 MGD. Flow is to be measured continuously. The permittee shall report the annual average monthly flow using the annual rolling average method (See Permit Footnote 2). The average monthly and maximum daily flows shall also be reported on the federal DMR.

5. Conventional Pollutants

A) <u>Biochemical Oxygen Demand (BOD5)/ Carbonaceous Biochemical Oxygen</u> <u>Demand (CBOD5)</u>

The draft permit carries forward the BOD_5 limits in the current permit. The water quality-based limits were developed by MassDEP in August 1987 using a steady state water quality model, and were verified by EPA in October 1987. The mass limitations for BOD_5 are based on a 3.01 MGD permitted flow. The monitoring frequency continues to be three times per week.

Mass Limitation (lbs/day) = $C \times PF \times 8.34$

Where

C = Concentration Limit PF = Permitted Flow 8.34 = Factor to convert concentration limit in mg/l and permitted flow in MGD to pounds per day.

Average Monthly Mass Limit = 20 mg/l x 3.01 MGD x 8.34 = 502 lbs/day or 500 lbs/day. Average Weekly Mass Limit = 20 mg/l x 3.01 MGD x 8.34 = 502 lbs/day or 500 lbs/day.

In accordance with the provisions set forth at 40 CFR § 133.102(b)(3), the draft permit requires that the 30-day average percent removal of BOD₅ be no less than 85%.

B) Total Suspended Solids (TSS)

The draft permit carries forward the TSS limits in the current permit. The average monthly limit is 20 mg/l and the average weekly limit is 20 mg/l. The mass limitations for TSS are based on a 3.01 MGD permitted flow. The draft permit requires the permittee to report the maximum TSS value each month, but does not establish an effluent limit. The monitoring frequency continues to be three times per week.

Mass Limitation (lbs/day) = $C \times PF \times 8.34$

Where

C = Concentration Limit PF = Permitted Flow 8.34 = Factor to convert concentration limit in mg/l and permitted flow in MGD to pounds per day.

Average Monthly Mass Limit = 20 mg/l x 3.01 MGD x 8.34 = 502 lbs/day or 500 lbs/day.Average Weekly Mass Limit = 20 mg/l x 3.01 MGD x 8.34 = 502 lbs/day or 500 lbs/day.

In accordance with the provisions set forth at 40 CFR § 133.102(b)(3), the draft permit requires that the 30-day average percent removal of TSS be no less than 85%.

C) <u>pH</u>

The draft permit includes pH limitations that are required by state water quality standards and are at least as stringent as pH limitations set forth at 40 C.F.R. '133.102(c). The pH of the effluent shall not be less than 6.5 or greater than 8.3 standard units at any time.

D) Escherichia coli (E. coli)

The *Escherichia coli* (*E. coli*) limits for Outfall 001 are based on state water quality standards for Class B waters (314 CMR 4.05(b)(4)). The Commonwealth of Massachusetts promulgated *E. coli* criteria in the Surface Water Quality Standards (314 CMR § 4.00) on December 29, 2006, replacing fecal coliform bacteria criteria. These new criteria were approved by EPA on September 19, 2007.

The *E. coli* limits proposed in the draft permit for Outfall 001 are 126 colony forming units per 100 ml (cfu/100 ml) geometric monthly mean and 409 cfu/100 ml maximum daily value (this is the 90% distribution of the geometric mean of 126 cfu/100 ml). These limits are seasonal, and the season has been extended from April 1st - October 15th to April 1st - October 31st to fully encompass the contact recreation period. The proposed *E. coli* monitoring frequency in the draft permit is daily. The draft permit requires that *E. coli* samples be collected at the same time as one of the total residual chlorine samples.

E) <u>Dissolved Oxygen</u>

The draft permit includes a limitation of not less than 6.0 mg/l for dissolved oxygen (DO) which is the same as the previous permit and is therefore consistent with the anti-backsliding provision of the CWA § 402(o).

6. Non-Conventional Pollutants

A) Total Residual Chlorine

Chlorine is a toxic chemical, and chlorine compounds produced from the disinfection of wastewater can be extremely toxic to aquatic life. Data reported on the facility's discharge monitoring reports (DMRs) shows total chlorine residual levels below the minimum detection level for the past 24 months. The draft permit carries forward the current total residual chlorine (TRC) limitations, which are based on state water quality standards [Title 314 CMR 4.05(5)(e)].

The acute and chronic water quality criteria for chlorine defined in the 2002 EPA National Recommended Water Quality Criteria for freshwater are 19 μ g/l and 11 μ g/l, respectively. Given the dilution factor of 1.6, total residual chlorine limits have been calculated as 30 μ g/l maximum daily and 18 μ g/l average monthly. This limit is in effect year round. Sampling will be required twice (2) per day.

Total Residual Chlorine Limitations:

(acute criteria * dilution factor) = Acute limit (Maximum Daily) (19 μ g/l x 1.6) = 30.4 μ g/l

(chronic criteria * dilution factor) = Chronic limit (Monthly Average) (11 μ g/l x 1.6) = 17.6 μ g/l

B) <u>Total Phosphorus</u>

The Massachusetts Surface Water Quality Standards (314 CMR 4.00) do not contain numerical criteria for total phosphorus. The narrative criteria for nutrients is found at 314 CMR 4.05(5) (c), which states that nutrients Ashall not exceed the site specific limits necessary to control accelerated or cultural eutrophication@. The Standards also require that Aany existing point source discharges containing nutrients in concentrations which encourage eutrophication or the growth of weeds or algae shall be provided with the highest and best practicable treatment to remove such nutrients (314 CMR 4.04). MassDEP has established that a monthly average total phosphorus limit of 0.2 mg/l (200 μ g/l) represents highest and best practical treatment for POTWs.

EPA has produced several guidance documents that contain recommended total phosphorus criteria for receiving waters. The 1986 Quality Criteria of Water ("the 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 lakes or impoundments, and 0.025 mg/l within a lake or reservoir.

More recently, EPA has released AEcoregional Nutrient Criteria@, established as part of an effort to reduce problems associated with excess nutrients in water bodies in specific areas of the country. The published criteria represent conditions in waters in each specific ecoregion which are minimally impacted by human activities, and thus representative of waters without cultural

eutrophication. Clinton is within Ecoregion XIV, Eastern Coastal Plains. The recommended total phosphorus criteria for this Ecoregion XIV is $24 \mu g/l (0.024 mg/l)$ and can be found in the Ambient Water Quality Criteria Recommendations, Information Supporting the Development of State and Tribal Nutrient Criteria, Rivers and Streams in Ecoregion XIV, published in December 2000.

In the summer of 2003, the Clinton WWTP effluent phosphorus concentration hovered near 200 μ g/l, which is much lower than the current limit (1,000 μ g/l) and slightly higher than the proposed effluent limit (150 µg/l), for much of the season (see Table 2). Data collected for the 2003 Nashua River Water Quality Assessment (WQA) Report in the South Nashua River less than one mile downstream of the Clinton discharge at Station NS19 (Atherton Bridge in Lancaster) are presented below in **Table 3**. Although the Clinton WWTP's effluent phosphorus was well below its permit limit, all downstream ambient values exceed the Ecoregional criteria, $24 \mu g/l$, although the lowest flow of the season was 10 times the 7Q10. Presumably, if 7Q10 conditions had occurred in 2003, downstream phosphorus levels would have been higher due to less dilution by the receiving water. This evidence indicates that a more stringent phosphorus limit is necessary to protect the receiving water from eutrophication during critical conditions.

Tuble 20 Heporteu Elinaene i nospiloru
Concentration, Summer 2003

Date	TP (µg/l)
May-03	399
June-03	260
July-03	210
August-03	420
September-03	189
October-03	190

S

NG10 Gumman 2002*	t
NS19, Summer 2003*	

Date	TP (µg/l)
4/9/2003	53
5/7/2003	64
6/11/2003	44
7/16/2003	32
8/13/2003	33
10/8/2003	37

(TP is Total Phosphorus)

*Data are from the Nashua River Watershed 2003 Water Quality Assessment Report.

MassDEP included the segment of the Nashua River immediately downstream of the Clinton WWTP (MA81-09) on the 2008 303(d) list for nutrients. The 2003 WQA noted moderate coverage of filamentous algae at the site on one occasion, and evidence of periphyton on another. Furthermore, the State has also documented the eutrophication of the Pepperell Impoundment, located on the North Nashua River approximately 20 miles downstream of the Clinton WWTP. The Impoundment is the downstream point of accumulation for any biomass produced upstream as the result of Clinton phosphorus inputs. The 2003 WQA reported floating algal mats at Pepperell Pond, indicating high phosphorus concentrations in the water column.

Discharge Monitoring Reports (DMRs) submitted by the permittee over the last 24 months report average monthly total phosphorus values between 170 μ g/l and 600 μ g/l with a maximum daily value of 960 µg/l. The calculated instream contribution at the current monthly average limit of 1,000 μ g/l (1,000 μ g/l divided by the dilution factor of 1.6) would be 600 μ g/l, which is higher than both the ecoregion criteria and the "Gold Book" criteria.

In June 2007, MassDEP submitted a Draft Phosphorus Total Maximum Daily Load (TMDL) study for the Nashua River watershed to EPA for approval. EPA has not approved the TMDL.

Based on the downstream impairments (e.g. 303(d) listing of the South Nashua River segment MA81-09, and the documented eutrophication of the Pepperell Impoundment), the ambient total phosphorus levels, and the current nutrient criteria, EPA determined that a more stringent total phosphorus limit than that in the current permit is necessary. A limit was calculated that would result in the attainment of the Gold Book-recommended criteria of $100\mu g/l$ under 7Q10 conditions. The effluent limitation is calculated as follows:

$$C_{d} = (\underline{Q_{r}C_{r} - Q_{s}C_{s}}) \\ Q_{d}$$

When	re			
C _d	=	Discharge concentration	=	?
Cr	=	Concentration below outfall	=	100 μg/l (Gold Book value)
Q_d	=	Discharge flow	=	3.01 MGD
Qs	=	Upstream flow	=	1.71 MGD
Cs	=	Upstream concentration	=	12 μg/l
Qr	=	Streamflow below outfall (effluent + upstream)	=	4.71 MGD

$C_{d} = (4.71 \text{ MGD})(100 \text{ }\mu\text{g/l}) - (1.7 \text{ MGD})(12 \text{ }\mu\text{g/l}) \\ 3.01 \text{ MGD}$

= 150 μg/l

The draft permit therefore includes a water quality-based total phosphorus limit of $150 \mu g/l$. This will be a monthly average limit and will be in effect from April 1 through October 31 of each year. In addition, the maximum daily value for each month must be reported.

The permit contains a compliance schedule for meeting the total phosphorus limits (see Section I.B. of the permit.) The schedule contains several interim milestones relative to the steps necessary to complete the design and construction of facilities necessary to meet the final limits. Final compliance with the total phosphorus limits must be achieved by the fourth anniversary of the effective date of the permit.

EPA has also included a winter effluent limitation for total phosphorus. Phosphorus discharged during the winter months could settle in downstream impoundments, particularly Pepperell Pond, and be available to support plant growth during the growing season. The permit establishes a one-year compliance schedule for meeting the November through March seasonal total phosphorus limit of 1,000 ug/l. The permit also includes a reporting requirement for dissolved orthophosphate for the winter period to confirm that the potential for phosphorus accumulation is minimized.

C) <u>Aluminum</u>

Aluminum, in the form of alum or other compounds, is a commonly used chemical additive in wastewater treatment to remove phosphorus. The release of metals such as aluminum into the environment can result in levels that are highly toxic to aquatic life. Therefore, it is necessary to evaluate the downstream effects of discharges of aluminum from wastewater treatment plants. Water quality-based effluent limitations are imposed on dischargers when it is determined that limitations more stringent than technology-based limitations are necessary to achieve or maintain the water quality standards in the receiving water (40 CFR § 122.44(d)(1)). Such determinations are made when EPA finds that there is reasonable potential for the discharge to cause or contribute to an instream excursion above a water quality criterion contained within applicable state water quality standards (40 CFR § 122.44(d)(1)(i)).

The Massachusetts Surface Water Quality Standards include requirements for the regulation and control of toxic constituents and also require that EPA-recommended criteria established pursuant to Section 304(a) of the CWA be used unless site-specific criteria are established (314 CMR § 4.05(5)(e)). Massachusetts has not adopted site-specific criteria for aluminum. Therefore, the freshwater criteria for aluminum found in the *National Recommended Water Quality Criteria*: 2002 (US EPA 2002 [EPA-822-R-02-047]), which are an acute concentration of 750 µg/l and a chronic concentration of 87 µg/l, apply in Massachusetts.

The potential for discharges of aluminum from the Clinton WWTP to cause or contribute to an excursion above water quality criteria was determined by statistically projecting the maximum concentration of the pollutant in the receiving water downstream from the discharge. Only values for June and September WET tests were used, because that is when Clinton WWTF currently uses alum for nutrient removal, which will likely occur year-round under the new permit. EPA projected the maximum concentration as 960 ug/l by calculating the 99th percentile measurement of the existing effluent data set, shown in Table 4. The 95th percentile concentration, 468 ug/l, was calculated for comparison with the chronic WQC (see Appendix B).

The projected pollutant level was then inserted into a steady-state mixing equation to determine if it could cause or contribute to an excursion from water quality standards under critical conditions. Background concentrations of aluminum in the Nashua River were determined from the WET Chemistry dilution water samples from 2008 and 2009.

As shown in the box below, the projected maximum aluminum effluent of 960 ug/l results in a receiving water concentration of 604 μ g/l during critical conditions, below the acute criterion of 750 μ g/l. A concentration of 468 ug/l, the 95th percentile concentration, results in a receiving water concentration of 317 ug/l, above the chronic criterion of 87 μ g/l. Therefore, there is reasonable potential for the discharge to cause or contribute to an excursion of the chronic water quality standard for aluminum.

Table 4.	Aluminum	Values in (Clinton	Wastewater	Treatment	Facility	Effluent	from
		S	Selected	l Toxicity Te	ests			

Date	Aluminum, μg/l
June 2008	206, 205, 262
September 2008	199, 297, 696
June 2009	593, 435, 457
September 2009	126, 205, 295

Reasonable Potential Analysis for Aluminum								
	Where							
	$\begin{array}{llllllllllllllllllllllllllllllllllll$							
Therefore,								
	$Cr = \frac{(3.01 \text{ MGD x } 468 \mu\text{g/l}) + (1.7 \text{ MGD x } 50 \mu\text{g/l})}{4.71 \text{ MGD}}$							
	= $317 \text{ ug/l} > 87 \mu\text{g/l} \text{ (chronic criterion)}$							
	Therefore, there is reasonable potential for the discharge to cause or contribute to an excursion from the chronic water quality criterion for aluminum.							

Reasonable Potential Analysis for Aluminum				
Where	e			
C_r Q_d	=	Concentration below outfall Discharge flow	=	3.01 MGD
C_d Q_s C_s	= = =	Upstream flow Upstream concentration	= = =	960 μg/l 1.7 MGD 50 μg/l
Qr	=	Streamflow below outfall (effluent + upstream)	=	4.71 MGD
Theref	fore,			
Cr = $(3.01 \text{ MGD x } 960 \mu g/l) + (1.7 \text{ MGD x } 50 \mu g/l)$ 4.71 MGD				
	=	604 ug/l < 750 μg/l (acute cr	iterion)	
Therefore, there is no reasonable potential for the discharge to cause or contribute to an excursion from the acute water quality criterion for aluminum.				

Given that the primary source of aluminum in the facility's discharge is alum used for phosphorus removal, and that the facility has a four-year compliance schedule to meet proposed phosphorus limits, the draft permit requires monitoring only for aluminum. This will give the facility the opportunity to re-evaluate use of alum in nutrient removal and will allow operational flexibility to minimize phosphorus concentrations until compliance with the new limit is possible. The permittee will report the average monthly maximum daily concentration in μ g/l. Monitoring frequency will be twice per week.

D) Ammonia Nitrogen

Ammonia is unique among regulated pollutants in that it is naturally produced by fish as a waste product. High levels of ammonia in the water column make it more difficult for fish to excrete this chemical via passive diffusion from gill tissues. Ammonia toxicity also varies with pH and temperature. Since the date of the existing permit, EPA has revised water quality criteria to account for these relationships.

A review of the current seasonal effluent limitations for ammonia nitrogen indicates that they are protective of water quality and in accordance with the EPA 1999 Update of Ambient Water Quality Criteria for Ammonia. Effluent data from 2007-2009 indicate that the Clinton-MWRA WWTP has consistently met the limits in the current permit.

The draft permit includes seasonal effluent limitations for ammonia nitrogen. During the month of April, the average monthly limit for ammonia nitrogen is 10 mg/l, and the maximum daily discharge during each month must be reported. For the month of May, the average monthly effluent limit is reduced to 5 mg/l and the maximum daily discharge during each month must be reported. For the summer months, defined as June 1 through October 31, the draft permit includes an average monthly limit of 2 mg/l and a maximum daily limit of 3 mg/l. For the winter months, defined as November 1 through March 31, the average monthly limit is 10.0 with a maximum daily limit of 35.2. These limits are carried forward from the existing permit and are based on the 1981 waste load allocation. Monitoring frequency June 1 through March 31, April 1 through April 30, and May 1 through May 31; monitoring frequency is once per week.

E) Copper

Certain metals, like copper, can be toxic to aquatic life. The current permit includes monthly average and daily maximum copper limits of 6.2 μ g/l and 8.3 μ g/l, respectively. These limits were calculated using the 1998 Water Quality criteria for copper calculated at a hardness of 35 mg/l as CaCO₃ and a dilution factor of 1.6. An examination of Clinton WWTP data from 2007-2009 indicates that effluent copper concentrations range from 4.23 – 13.1 μ g/l (see Appendix A).

The Massachusetts Surface Water Quality Standards were revised in December 2006, and approved by EPA on March 26, 2007, to include a dissolved acute copper criterion of 25.7 μ g/l and a dissolved chronic copper criterion of 18.1 μ g/l for the Nashua River (314 CMR § 4.06, Table 28 (Site Specific Criteria)).

The new, less stringent, site specific copper criteria may allow an increase in the effluent copper limitations. However, EPA may only relax effluent limitations when consistent with anti-backsliding and antidegradation requirements. A chart from the USEPA NPDES Permit Writers Manual showing the anti-backsliding rules relating to water quality-based effluent limitations is attached (Figure 2 Anti-backsliding Flow Chart).

To determine whether a water quality-based limitation can be relaxed pursuant to antibacksliding, it first must be determined whether a specific exception is met under 402(o). In this case, no specific exception has been met³. If there is no specific exception, water quality limits might still be relaxed, with the procedures being determined by whether the receiving water is in attainment of water quality standards for the pollutant in question. EPA therefore performed calculations to determine whether the receiving water is currently attaining the site-specific chronic copper criterion under critical conditions. Critical conditions include the treatment plant discharging at permitted flow, with an effluent copper concentration equal to the statisticallyprojected 99th percentile value (14.0 μ g/l) and the flow in the receiving water upstream of the discharge at the minimum required flow release from the Wachusett Dam (1.71 MGD).

Under these conditions, the maximum daily instream dissolved copper concentration downstream

³ The exception relating to new information does not apply. New regulations (in this case, new water quality criteria) are specifically excluded as new information.

from the discharge is projected to be 10.88 μ g/l (see **Appendix C**). The projected instream copper concentrations downstream from the discharge are less than the site-specific acute and chronic criteria, meaning that the receiving water is currently in attainment of the site specific water quality standards with respect to copper. Therefore, it is permissible to relax the monthly average and daily maximum copper limits, provided antidegradation requirements are met.

First, EPA calculated limits that would result in the concentration of copper in the receiving water downstream from the discharge being equal to the site-specific criteria (i.e., limits based on the site-specific criteria); they are 40.4 μ g/l (maximum daily) and 28.0 μ g/l (average monthly). These values are less stringent than those contained in the prior permit.

EPA then evaluated the level of copper removal routinely achieved by the facility in accordance with requirements in the State's *Protocol for and Determination of Site-Specific Copper Criteria for Ambient Waters in Massachusetts* (the "site-specific protocol"; MassDEP 2007). This document provides that limits adjusted pursuant to the site-specific criteria will also reflect the level of copper control routinely achieved by the facility. A statistical analysis of the effluent concentration data from 2007 to 2009 (see **Appendix A**) shows that limits based solely on past performance would result in a monthly average limit of 9.5 μ g/l and a daily maximum limit of 14.0 μ g/l (see **Appendix C**). These limits are less stringent than the prior permit limits, but more stringent than limits based solely on the site-specific copper criteria referenced above.

A comparison of the limits in the prior permit, the limits based on the site-specific criteria being achieved in the downstream receiving water, and the limits based on the performance of the facility are presented in **Table 5**. Also shown are the downstream receiving water concentrations of copper that would be expected under each set of limitations (see **Table 5**).

	Average Monthly (Chronic) (Total Recoverable Copper)	Maximum Daily (Acute) (Total Recoverable Copper)	Resultant Downstream Receiving Water Concentration at Acute and Chronic Limits, respectively (Dissolved Copper) ⁴
Limits in Prior Permit	6.2 µg/l	8.3 µg/l	6.1 μ g/l and 7.4 μ g/l
Limits to Achieve Criteria ⁵	28 µg/l	40 µg/l	18.1 μg/l and 25.7 μg/l
Performance- Based Limits	9.5 μg/l	14.0 µg/l	8.1 μg/l and 10.9 μg/l

 Table 5.

 Comparison of Effluent Limits and Resultant Downstream Receiving Water

 Concentrations of Copper*

In light of the above calculations, EPA proposes to increase the monthly average limit from 6.2 μ g/l (contained in the prior permit) to 9.5 μ g/l, and to increase the daily maximum from 8.3 μ g/l (contained in the prior permit) to 14.0 μ g/l. This is consistent with the State's protocol, which allows an upward adjustment of limits based on site-specific criteria, but only to the extent necessary based on past demonstrated performance of the facility. Monitoring frequency will be once per week.

These limits are more stringent than the limits calculated to achieve the site specific criteria and to protect existing uses. The instream concentration will remain substantially below the applicable instream chronic criterion (8.1 μ g/l vs. 18.1 μ g/l), and the new limit reflects the past performance of the Permittee's facility.

F) <u>Zinc</u>

A Reasonable Potential Analysis was conducted to determine the necessity of permit limits for zinc. Similar to other metals, Water Quality Criteria for zinc are dependent on the hardness of the receiving water; increasing hardness reduces the toxicity of the metal. The downstream hardness value of 47.6 mg/l was calculated using a mass balance equation to account for the

⁴ Criteria are expressed in terms of dissolved metals. However, permit limitations for metals are expressed in terms of total recoverable metals in accordance with the requirements of 40 CFR § 122.45(c). As such, conversion factors are used to develop total recoverable limits from dissolved criteria. The conversion factor reflects how the discharge of a particular metal partitions between the particulate and dissolved form after mixing with the receiving water. In the absence of site-specific data describing how a particular discharge partitions in the receiving water, a default assumption equivalent to the criteria conversion factor is used in accordance with the <u>EPA Metal Translator</u> <u>Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criteria</u> (EPA 1996 [EPA-823-B96-007]). Therefore, a conversion factor of 0.960 was applied to convert between total recoverable and dissolved copper concentrations.

⁵ The limits to achieve criteria were calculated to result in the instream copper concentration downstream from the discharge being equal to the site-specific dissolved acute copper criterion of 25.7 μ g/l and the site-specific dissolved chronic criterion of 18.1 μ g/l. See Appendix C for the derivation of performance-based limits.

effect of the effluent on instream hardness. The value used for upstream concentration is the average of the instream hardness values of samples collected in the Nashua River upstream from the discharge for use as dilution water for the March 2008, June 2008, and September 2008 whole effluent toxicity (WET) tests⁶. The value used for discharge concentration is the measured hardness of the effluent in the same toxicity tests.

Where		Hardness Analysis	for Zin	c
$\begin{array}{c} C_r \\ Q_d \\ C_d \\ Q_s \\ C_s \\ Q_r \end{array}$		Concentration below outfall Discharge flow Discharge concentration Upstream flow Upstream concentration Streamflow below outfall (effluent + upstream)	= = =	3.01 MGD 57 mg/l 1.7 MGD 30 mg/l 4.71 MGD
There	efore,			
Cr	$Cr = \frac{(3.01 \text{ MGD x } 57 \text{ mg/l}) + (1.7 \text{ MGD x } 30 \text{ mg/l})}{4.71 \text{ MGD}}$			<u>30 mg/l)</u>
	=	47.6 mg/l		

Equations from the EPA 2002 National Recommended Water Quality Criteria were used to determine acute and chronic zinc criteria for the receiving water. (Note: Values for the pollutant-specific coefficients and conversion factors were taken from Appendix B of the EPA 2002 National Recommended Water Quality Criteria).

1. Acute Criteria (Total Recoverable) = $\exp\{m_a [\ln(h)] + b_a\} = 63.9 \ \mu g/l$

Where:

$m_a = Pollutant-specific coefficient$	= 0.8473
$b_a = Pollutant-specific coefficient$	= 0.884
ln = Natural logarithm	
h = hardness of the receiving water	= 47.6 mg/l

2. Chronic Criteria (Total Recoverable) = $\exp\{m_c [\ln(h)] + b_c\} = 63.8 \ \mu g/l$

Where:

 $m_c = Pollutant-specific coefficient = 0.8473$

⁶ MWRA began analysis of upstream dilution water in March 2008.

 $b_c = Pollutant-specific coefficient = 0.884$ ln = Natural logarithmh = hardness of the receiving water = 47.6 mg/l

The potential for discharges of zinc from the Clinton WWTP to cause or contribute to an excursion above water quality criteria was determined by statistically projecting the maximum concentration of the pollutant in the receiving water downstream from the discharge (similar to the analysis used for aluminum). The following steps from the Technical Support Document (referred to as "the TSD") led to the finding of **no reasonable potential** to cause or contribute to exceedance of water quality criteria for zinc:

Zinc effluent data from March 2007 through December 2009 quarterly toxicity testing were analyzed using the delta-lognormal statistical distribution. The 99th percentile, 95% confidence level concentration projected for effluent zinc concentrations was 43.8 μ g/L.

The projected pollutant level derived in Step 1 were modeled using a steady-state mixing equation to determine if it could cause or contribute to an excursion from water quality standards under critical conditions. Upstream samples taken for control WET Test renewals from the same period were averaged to determine the upstream concentration. As shown below, under critical conditions, the projected 99th percentile zinc effluent concentration results in a receiving water concentration of 30.7 μ g/l, below both the acute criterion of 62.5 μ g/l and the chronic criterion of 63.0 μ g/l. Therefore, there is **no reasonable potential** for the discharge to cause or contribute to an excursion of water quality standards. No further analysis is needed.

Effluent limitations for zinc are not proposed in the draft permit. The permittee shall continue to monitor for zinc as part of their whole effluent toxicity (WET) testing.

		Reasonable Potential Analysis for Zinc				
Where	e					
Cr	=	Concentration below outfall				
\mathbf{Q}_{d}	=	Discharge flow	=	3.01 MGD		
C_d	=	Discharge concentration	=	43.8 μg/l		
Q_s	=	Upstream flow	=	1.7 MGD		
C_s	=	Upstream concentration	=	8.8 μg/l		
Qr	=	Streamflow below outfall	=	4.71 MGD		
		(effluent + upstream)				
There	fore,					
Cr	=	<u>(3.01MGD x 43.8 µg/l) + (1.7 M</u>	1GD x 8	<u>8.8 μg/l)</u>		
	4.71 MGD					
	=	$= 30.7 \mu\text{g/l} < 63.8 \text{ug/l} \text{ (chronic criterion)}$				
		30.7 ug/l < 63.9 ug/l (acute of	criterior	1)		
Therefore, there is no reasonable potential for the discharge to cause						
or contribute to an excursion from either the acute or chronic water						
quality criterion for zinc.						

G) Outfall 001 – Whole Effluent Toxicity

Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The Massachusetts Surface Water Quality Standards include the following narrative statement and requires that EPA criteria established pursuant to Section 304(a)(1) of the CWA be used as guidance for interpretation of the following narrative criteria: All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

National studies conducted by the EPA have demonstrated that domestic sources contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents, aromatic hydrocarbons and others. Based on the potential for toxicity from domestic sources, the state narrative water quality criterion, the limited dilution at the discharge location, and in accordance with EPA national and regional policy and 40 C.F.R. ' 122.44(d), the draft permit includes a whole effluent chronic and acute toxicity limitations (C-NOEC = 62.5% and LC50 =100%). (See also "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 49 <u>Fed. Reg.</u> 9016 March 9, 1984, and EPA's "Technical Support Document for Water Quality-Based Toxics Control", September, 1991.)

The draft permit carries forward the requirements for quarterly Chronic and Acute toxicity tests using the species <u>Ceriodaphnia dubia</u>, only. The tests must be performed in accordance with the

test procedures and protocols specified in **Permit Attachment A**. The tests will be conducted four times a year, during the following months: March, June, September and December.

The LC₅₀ limit of \Box 100% is established by EPA/MassDEP policy for facilities with less than 10:1 dilution (See MassDEP's "Implementation Policy for the Control of Toxic Pollutants in Surface Waters, February 23, 1990). The C-NOEC is established at the receiving water concentration (1/Dilution Factor = 1/1.6), which is 62.5%.

VI. OPERATION AND MAINTENANCE OF THE COLLECTION SYSTEM

The current permit includes requirement regarding the operation and maintenance of the collection system. Among other things, the permit requires the permittee, and the Town of Clinton and the Lancaster Sewer District, as limited co-permittees, to each develop and implement an inflow/infiltration control program for the portion of the collection system it owns and operates and to report unauthorized discharges from its portion of the collection system.

Infiltration is groundwater that enters the collection system though physical defects such as cracked pipes, or deteriorated joints. Inflow is extraneous flow entering 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, can reduce the capacity and the efficiency of the treatment works and may cause bypasses to secondary treatment. It greatly increases the potential for sanitary sewer overflows (SSOs) in separate sewer systems. I/I in the collection system has also caused significant increase in flow to the Clinton WWTP during wet weather.

The Town of Clinton was issued an Administrative Order (AO) by MassDEP on July 3, 1985, requiring any new sewer connections to be offset through the reduction of I/I. Specific tasks required by the ACO and to be completed by the Town of Clinton, according to MassDEP, are listed below:

- Sewer moratorium;
- Construction of two manholes;
- Adoption of a User Charge System and a Sewer Use Ordinance;
- Implementation of an Inflow Detection and Elimination Program;
- Submittal of an annual plan for sewer inspection and maintenance for approval by MassDEP.
- Submittal of a semi-annual report to MassDEP summarizing inspections and repairs, including the estimated quantity of I/I removed.

The current permit requires the permittee and each co-permittee to submit an annual report to EPA and MassDEP addressing I/I removal efforts. MWRA has submitted annual reports addressing I/I reduction in its portion of the sewer system and analysis of influent flows. However, it does not appear that the Towns of Clinton or the Lancaster Sewer District submitted I/I reports to EPA or MassDEP. While the MWRA reports contain useful information in regards

to I/I quantities, they do not, and are not expected to, address Clinton's or Lancaster's I/I reduction efforts.

The draft permit continues the current permit's requirements regarding operation and maintenance of the collection system. Specifically, the permit includes the Towns of Clinton and Lancaster as limited co-permittees for conditions pertaining to operation and maintenance of the portion of the collection system each Town owns and operates, and includes the continuation of I/I control programs, and reporting of overflows.

VII. SLUDGE INFORMATION AND REQUIREMENTS

Section 405(d) of the Clean Water Act (CWA) requires that EPA develop technical standards regulating the use and disposal of sewage sludge. These regulations, found at 40 CFR Part 503, regulate the use and disposal of domestic sludge that is land applied, disposed in a surface disposal unit, or fired in a sewage sludge incinerator. Part 503 regulations have a self-implementing provision; however, the CWA requires implementation through permits.

The draft permit has been conditioned to ensure that sewage sludge use and disposal practices meet the CWA Section 405(d) Technical Standards and the 40 CFR Part 503 regulations. In addition, EPA Region I has included with the draft permit a 72-page document entitled "EPA Region I NPDES Permit Sludge Compliance Guidance, November 1999" (see **Attachment B** of the draft permit) for use by the permittee in determining the appropriate sludge conditions for the chosen method of sewage sludge use or disposal practices.

The permittee is required to submit an annual report to EPA and MassDEP by **February 19**th of each year, containing the information for the permittee's chosen method of sludge disposal, as required by the Part 503 regulations. The Sludge Compliance Guidance Document may be used for guidance in determining the appropriate reporting requirements.

VIII. PRETREATMENT

The facility accepts industrial wastewater from two (2) non-categorical Significant Industrial Users (SIUs). Industrial discharges to the Clinton WWTP comprise approximately 41,000 gallons per day, or 1% of the influent.

The permittee is required to administer a pretreatment program based on the authority granted under 40 CFR '122.44(j), 40 CFR Part 403 and Section 307 of the Act. The permittee's pretreatment program received EPA approval on September 28, 1990 and, as a result, appropriate pretreatment program requirements were incorporated into the previous permit, which were consistent with that approval and federal pretreatment regulations in effect when the permit was issued.

Upon reissuance of this NPDES permit, the permittee is required to review its pretreatment program and modify it as necessary to ensure that it is consistent with 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 POTW's NPDES permit and its sludge use or disposal practices.

Lastly, the permittee must continue to submit an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days before the due date in accordance with 403.12(i). The annual report shall be submitted **no later than October 31 of each year**.

IX. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. '1801 <u>et seq</u>.(1998)), EPA is required to consult with the National Marine Fisheries Service (NMFS) if EPA=s action or proposed actions that it funds, permits, or undertakes, Amay adversely impact any essential fish habitat,@ 16 U.S.C. '1855(b). The Amendments broadly define Aessential fish habitat@ (EFH) as: Awaters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity,@ 16 U.S.C. '1802(10). AAdverse impact@ means any impact which reduces the quality and/or quantity of EFH, 50 C.F.R. '600.910(a). Adverse effects may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. <u>Id.</u>

Essential fish habitat is only designated for fish species for which federal Fisheries Management Plans exist. 16 U.S.C. '1855(b)(1)(A). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999.

Only Atlantic Salmon is believed to be present during one or more life stage within the EFH Area, which encompasses the existing discharge site. No "habitat area of particular concern" as defined under '600.815(a)(9) of the Magnuson-Stevens Act, has been designated for this site. Although EFH has been designated for this general location, EPA has concluded that this activity is not likely to affect EFH or its associated species for the following reasons:

- The quantity of the discharge from the WWTP is 3.01 MGD and the effluent receives advanced secondary treatment;
- The facility withdraws no water from the South Nashua River, so no life stages of Atlantic salmon are vulnerable to impingement or entrainment from this facility;
- Limits specifically protective of aquatic organisms have been established for phosphorus, aluminum, chlorine and copper based on EPA water quality criteria;
- Acute and chronic toxicity testing on *Ceriodaphnia dubia* is required four (4) times per year and the recent toxicity results are in compliance with permit limits;
- The permit prohibits any violation of state water quality standards.

EPA believes that the conditions and limitations contained within the draft permit adequately protect all aquatic life, including Atlantic salmon, the only species in the river with EFH designation. Impacts associated with this facility to the EFH species, its habitat and forage, have been minimized to the extent that no significant adverse impacts are expected. Further mitigation is not warranted. Should adverse impacts to EFH be detected as a result of this permit action, or if new information is received that changes the basis for EPA's conclusions, NMFS will be contacted and an EFH consultation will be re-initiated.

X. ENDANGERED SPECIES ACT

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 insure 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) typically administers Section 7 consultations for bird, terrestrial, and freshwater aquatic species. The National Marine Fisheries Service (NMFS) typically administers Section 7 consultations for marine species and anadromous fish.

EPA has reviewed the federal endangered or threatened species of fish and wildlife to determine if any listed species might potentially be impacted by the re-issuance of this NPDES permit. The review revealed that two federally protected species, the small whirled pogonia (*Isotria medeoloides*), an orchid, and the amphidromous fish species, the shortnose sturgeon (*Acipenser brevirostrum*), merited further discussion.

The small whirled pogonia orchid has been identified in Leominster, Massachusetts, which is two towns away from the Clinton WWTF. In addition, the small whorled pogonia is found in "forests with somewhat poorly drained soils and/or a seasonally high water table," according to the USFWS website. This species is not aquatic; therefore it is unlikely that it would come into contact with the facility discharge.

The Clinton WWTP discharges its effluent into the South Nashua River. This segment of the Nashua River is listed as a Class B warmwater fishery. The river system ultimately joins the Merrimack River at Nashua, New Hampshire. The lower Merrimack River has been identified as habitat for the federally protected shortnose sturgeon. However, it is unlikely that shortnose sturgeon would be able to navigate upstream, past the many anthropogenic obstacles to fish passage, leave the mainstem of the Merrimack River and travel approximately 50 river miles to reach the area of the South Nashua River influenced by the facility outfall. Based on this assessment, shortnose sturgeon are not considered to be present in the vicinity of the WWTP discharge. No other federally-listed species occur in Worcester County.

Based on the permit conditions and absence of listed species in the vicinity of the facility's discharge, EPA has determined that this permit action will have no effects on these species.

EPA is coordinating a review of this finding with USFWS and NMFS through the Draft Permit and Fact Sheet, and consultation under Section 7 of the ESA with USFWS and NMFS is not required.

XI. 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 includes new provisions related to Discharge Monitoring Report (DMR) submittals to EPA and the State. The Draft Permit requires that, no later than one year after the effective date of the permit, the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR, unless the permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for submitting DMRs and reports ("opt-out request").

In the interim (until one year from the effective date of the permit), the permittee may either submit monitoring data and other reports to EPA in hard copy form, or report electronically using NetDMR.

NetDMR is a national web-based tool for regulated Clean Water Act permittees to submit discharge monitoring reports (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: <u>http://www.epa.gov/netdmr.</u> Further information about NetDMR, including contacts for EPA Region 1, is provided on this website.

EPA currently conducts free training on the use of NetDMR, and anticipates that the availability of this training will continue to assist permittees with the transition to use of NetDMR. To participate in upcoming trainings, visit <u>http://www.epa.gov/netdmr</u> for contact information for Massachusetts.

The Draft Permit requires the permittee to report monitoring results obtained during each calendar month using NetDMR, no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA as an electronic attachment to the DMR. Once a permittee begins submitting reports using NetDMR, it will no longer be required to submit hard copies of DMRs or other reports to EPA and will no longer be required to submit hard copies of DMRs to MassDEP. However, permittees must continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP.

The Draft Permit also includes an "opt-out" request process. Permittees who believe they can not use NetDMR due to technical or administrative infeasibilities, or other logical reasons, must demonstrate the reasonable basis that precludes the use of NetDMR. These permittees must

submit the justification, in writing, to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs become effective upon the date of written approval by EPA and are valid for twelve (12) months from the date of EPA approval. The opt-outs expire at the end of this twelve (12) month period. Upon expiration, the permittee must submit DMRs and reports to EPA using NetDMR, unless the permittee submits a renewed opt-out request sixty (60) days prior to expiration of its opt-out, and such a request is approved by EPA.

Until electronic reporting using NetDMR begins, or for those permittees that receive written approval from EPA to continue to submit hard copies of DMRs, the Draft Permit requires that submittal of DMRs and other reports required by the permit continue in hard copy format. Hard copies of DMRs must be postmarked no later than the 15th day of the month following the completed reporting period.

XII. STATE PERMIT CONDITIONS

The NPDES Permit is issued jointly by the U. S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection under federal and state law, respectively. As such, all the terms and conditions of the permit are, therefore, incorporated into and constitute a discharge permit issued by the MassDEP Commissioner.

XIII. GENERAL CONDITIONS

The general conditions of the permit are based on 40 CFR Parts 122, Subparts A and D and 40 CFR 124, Subparts A, D, E, and F and are consistent with management requirements common to other permits.

XIV. STATE CERTIFICATION REQUIREMENTS

The staff of the Massachusetts Department of Environmental Protection ("MassDEP") has reviewed the draft permit. EPA has requested permit certification by the State pursuant to 40 CFR ' 124.53 and expects that the draft permit will be certified.

XV. PUBLIC COMMENT PERIOD AND PROCEDURES FOR FINAL DECISION

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 the U.S. EPA, Office of Ecosystem Protection, 5 Post Office Square, Suite 100, 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 and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. Public hearings may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates a 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's Boston office.

Following the close of the comment period and after a public hearing, if such a 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.

XVI. EPA CONTACT

Additional information concerning the draft permit may be obtained between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday, excluding holidays from:

Robin L. Johnson EPA New England – Region 1 5 Post Office Square, Suite 100 Mail Code OEP06-1 Boston, MA 02109-3912 Telephone: (617) 918-1045 Johnson.Robin@epa.gov

> Stephen Perkins, Director Office of Ecosystem Protection U.S. Environmental Protection Agency

Date









*NHESP = Massachusetts Natural Heritage and Endangered Species Program

Ν

1 in = 1 mile
http://www.mwra.com/03sewer/html/clinton/flowschematic.jpg



6/15/2010

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Clinton Treatment Plant



Variances to Permit Requirements and Other Regulatory Considerations

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MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION COMMONWEALTH OF MASSACHUSETTS 1 WINTER STREET BOSTON, MASSACHUSETTS 02108

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 1 OFFICE OF ECOSYSTEM PROTECTION 5 POST OFFICE SQUARE BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF COMMENT PERIOD PERTAINING TO A PARTIALLY REVISED DRAFT NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF THE UNITED STATES UNDER SECTION 301 AND 402 OF THE CLEAN WATER ACT (THE "ACT"), AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER SECTION 401 OF THE ACT.

DATE OF NOTICE: September 18, 2013

PERMIT NUMBER: MA0100404

PUBLIC NOTICE NUMBER: MA-023-13

NAME AND MAILING ADDRESS OF APPLICANT:

Mr. Frederick A. Laskey Executive Director Massachusetts Water Resources Authority Charlestown Navy Yard 100 First Avenue Boston, Massachusetts 02129

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Clinton Wastewater Treatment Plant 677 High Street Clinton, Massachusetts 01510

RECEIVING WATER: Nashua River (Class B)

PREPARATION OF THE PARTIALLY REVISED DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) have cooperated in the development of a partially revised National Pollutant Discharge Elimination System (NPDES) draft permit authorizing discharge from the MWRA-Clinton Wastewater Treatment Facility to the Nashua River. A draft permit was released for public notice on September 29, 2010, and the public comment period closed October 28, 2010.

EPA and MassDEP have decided to partially reopen the Draft Permit for public comment on the following requirements: an updated rationale for including co-permittees for sewer system

operation and maintenance and unauthorized discharges, recently updated operations and maintenance requirements, inclusion of separate acute and chronic whole effluent toxicity tests, an updated phosphorus compliance schedule, and a new reasonable potential analysis for aluminum.

The agencies have concluded that an opportunity for interested parties to review the partially revised Draft Permit and partially revised Fact Sheet, and to submit comments on these revisions will assist the agencies in their deliberations and improve the quality of the Final Permit decision.

Therefore, pursuant to 40 CFR § 124.14(b), public comment on the partially revised Draft Permit has been reopened. In accordance with 40 CFR § 124.14(c), comments filed during the reopened comment period shall be limited to the "substantial new questions that caused its reopening."

The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00, and State Surface Water Quality Standards at 314 CMR 4.00. EPA has requested that the State certify this draft permit pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified.

INFORMATION ABOUT THE PARTIALLY REVISED DRAFT PERMIT:

A revised fact sheet (describing the basis for the revised draft permit conditions and significant factual, legal and policy questions considered in preparing the draft permit) may be obtained at no cost at <u>http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html</u> or by contacting EPA's contact person named below:

Robin Johnson U.S. Environmental Protection Agency – Region 1 5 Post Office Square, Suite 100 (OEP06-1) Boston, MA 02109-3912 Telephone: (617) 918-1045

The administrative record containing all documents relating to this draft permit including all data submitted by the applicant may be inspected at the EPA Boston office mentioned above between 9:00 a.m. and 5:00 p.m., Monday through Friday, except holidays.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of the partially revised draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by October 17, 2013, to the address listed above. Any person, prior to such date, may submit a request in writing to EPA and MassDEP for a public hearing to consider this draft permit. 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 this draft permit, the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

FINAL PERMIT DECISION:

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.

DAVID FERRIS, DIRECTOR MASSACHUSETTS WASTEWATER MANAGEMENT PROGRAM MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION KEN MORAFF, ACTING DIRECTOR OFFICE OF ECOSYSTEM PROTECTION EPA-REGION 1