AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, [33 U.S.C. §§1251 et seq. (the "CWA")], and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Springfield Water and Sewer Commission

is authorized to discharge from a facility located at:

Springfield Regional Wastewater Treatment Facility
Route 5 Bondi Island
Agawam, MA 01001

and

Combined Sewer Overflow (CSO) discharges at 24 locations

to receiving waters named: **Connecticut River Segment MA 34-05 (Waste Water Treatment Facility Outfall # 001 and CSO outfalls # 007, 008, 010, 011, 012, 013, 014, 015A, 015B,016, 018, 042 and 049), Chicopee River Segment MA36-25 (CSO outfalls # 034, 035, 036A, and 037) and Mill River Segment MA34-29 (CSO outfalls # 017, 019, 024, 025, 045, 046, and 048)**

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

The Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham are co-permittees for Part C, Unauthorized Discharges; Part D., Operation and Maintenance, which includes conditions regarding the operation and maintenance of the collection systems owned and operated by the Towns; and Part E., Alternate Power Source.

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D. and Part E of this permit. The Permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E. The responsible Town departments are:

Town of Agawam **Department of Public Works** **1000 Suffield St** **Agawam, MA 01001**	**Town of East Longmeadow** **Department of Public Works** **60 Center Square, 2nd Floor** **East Longmeadow, MA 01028**	**Town of Longmeadow** **Department of Public Works** **31 Pondside Road** **Longmeadow, MA 01106**
Town of Ludlow **Department of Public Works** **198 Sportsmans Road** **Ludlow, MA 01056**	**Town of West Springfield** **Department of Public Works** **26 Central Street, Suite 17** **West Springfield, MA 01089**	**Town of Wilbraham** **Department of Public Works** **240 Springfield St.** **Wilbraham, MA 01095**

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 will expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes NPDES Permit No. MA0101613, signed on December 8, 2000, and NPDES Permit No. MA0103331, signed on September 30, 2009.

This permit consists of 27 pages in Part I including effluent limitations and monitoring requirements, **Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011, Attachment B(Reassessment of Technically Based Industrial Discharge Limits), Attachment C(NPDES Permit Requirement for Industrial Pretreatment Annual Report),** and **Part II** (21 pages including NPDES Part II Standard Conditions).

Signed this 30th day of September, 2020

/S/Signature On file
Ken Moraff, Director
Water Division
Environmental Protection Agency
Boston, MA

/S/Signature On File
Lealdon Langley, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A.1. During the period beginning the effective date and lasting through expiration, the Permittee is authorized to discharge treated effluent from outfall serial number **001** to the Connecticut River. Such discharges shall be limited and monitored by the Permittee as specified below.

Effluent Characteristic		**Discharge Limitation**			**Monitoring Requirement** [*4]	
Parameter	**Units**	**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Effluent Flow [*2, *3]	MGD	67	—	Report	Continuous	Recorder
BOD_5 [*5]	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
TSS [*5]	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
pH Range[*1]	Standard Units	6.5 – 8.3 (See Permit Part I.A.1.b.)			1/Day	Grab
Escherichia coli [*1, *7] (April 1 - October 31)	cfu/100 ml	126	—	409	5/Week	Grab
Fecal coliform bacteria, [*7]	cfu/100 ml	200		400	5/Week	Grab
Total Residual Chlorine [*1, *8]	mg/l	0.26	—	0.46	5/Week	Grab
Total Phosphorus[*9] (April 1 – October 31)	mg/l	Report		Report	2/Month	24-Hour Composite[*6]

Part I.A.1. (Continued)

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement[4]	
Parameter		**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Ammonia Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report Report	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrogen, Total [*10,*11]	mg/l lbs/day	Report 2,794	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrite+Nitrate, Total[*10,*11]	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Kjeldahl Nitrogen, Total[*10,*11]	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Whole Effluent Toxicity [*12, *13, *14, *15]						
LC_{50}	%	≥ 100			4/Year	24-Hour Composite[*6]
Hardness[*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Ammonia Nitrogen as N [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Aluminum [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Cadmium [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Copper [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Nickel [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Lead [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Zinc [*15]	mg/l	Report			4/Year	24-Hour Composite[*6]

Footnotes:

*1. Required for State Certification.

*2. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.

*3. The following information shall be reported and submitted as an attachment to the monthly DMRs for each day there was a bypass of secondary treatment: date and time of initiation, total influent flow at time of initiation, date and time of termination, total influent flow at time of termination, total duration of flow, and total volume of flow. Total influent flow is defined as the instantaneous flow at the time of the closest measurement taken when the bypass of secondary treatment commenced as well as when it was terminated.

A bypass of secondary treatment is subject to the requirements of Part II.B.4.and Part II.D.1.e. of this permit.

Flows shall be measured using a meter. The requirement to measure flows which bypass secondary treatment using a meter shall take effect 6 months following the effective date of the permit.

The Permittee shall not add septage to the waste stream at the treatment plant during activation of the secondary treatment bypass.

Monitoring Location	Date and Time of Initiation of Flow	Influent Flow at Time of Initiation (MGD)	Date and Time of Termination of Flow	Influent Flow at Time of Termination (MGD)	Total Duration of Flow (Hours)	Total Volume of Flow (MGD)
Secondary Bypass						

*4. All required effluent samples shall be collected at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment. Bacteria and TRC samples shall be collected after exiting the chlorine contact chamber.

A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented as an electronic attachment to the applicable discharge monitoring report.

In accordance with 40 CFR § 122.44(i)(1)(iv), the Permittee shall monitor according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O, for the analysis of pollutants or pollutant parameters (except WET). A method is "sufficiently sensitive" when: 1) The method

minimum level (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or 2) The method has the lowest ML of the analytical methods approved under 40 CFR Part 136 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter. The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL), whichever is higher. Minimum levels may be obtained in several ways: They may be published in a method; they may be based on the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a laboratory, by a factor.

When a parameter is not detected above the ML, the Permittee must report the data qualifier signifying less than the ML for that parameter (e.g., < 50 µg/L, if the ML for a parameter is 50 µg/L). For reporting an average based on a mix of values detected and not detected, assign a value of "0" to all non-detects for that reporting period and report the average of all the results.

*5. Sampling is required for influent and effluent.

*6. A 24-hour composite sample will consist of at least twenty-four (24) grab samples taken during one consecutive 24-hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.

Within six months of the effective date of the permit, the Permittee may either submit information to EPA for consideration regarding their preferred method of collecting a composite sample, or, alternatively, to comply with the method for collecting a composite sample described above.

*7. *E. coli* limitations shall go into effect one year from the effective date of the permit. *E. coli* monitoring is required until the limits go into effect. Fecal coliform limits and monitoring requirements remain in effect until the *E. coli* limits take effect.

The monthly average limit for *Escherichia coli (E. coli)* is expressed as a geometric mean. *E. coli* monitoring shall be conducted concurrently with a total residual chlorine sample.

*8. Total residual chlorine monitoring is required whenever chlorine is added to the treatment process (i.e. TRC sampling is not required if chlorine is not added for disinfection or other purpose). The limitations are in effect year-round. For months when chlorine is not added to the treatment system a no data indicator (NODI) of C shall be reported on the monthly discharge monitoring report.

Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine 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, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

*9. In addition, see Part I.H.3 for ambient phosphorus monitoring requirements.

*10. Total nitrogen concentration (whether maximum daily or average monthly) and average monthly load values are to be calculated and reported, as shown below:

> Total Kjeldahl nitrogen, nitrite nitrogen, and nitrate nitrogen samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen
>
> (total nitrogen = total Kjeldahl nitrogen + total nitrate nitrogen + total nitrite nitrogen)

The total nitrogen loading values reported each month shall be calculated as follows:

> Total Nitrogen (lbs/day) = [(average monthly total nitrogen concentration (mg/l) * total monthly influent flow (Millions of Gallons (MG)) / # of days in the month] *8.34

*11 The total nitrogen limit is an annual average mass-based limit (lb/day), which shall be reported as a rolling 12-month average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months.

Report both the rolling annual average and the monthly average each month.

See Part 1.H. SPECIAL CONDITIONS for requirements regarding optimization for nitrogen removal.

*12. The Permittee shall conduct acute toxicity tests four times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. Toxicity test samples shall be collected during the same week each time 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 April 30th, July 31st, October 31st, and January 31st, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Dates during the month of:	**Submit Results By:**	**Test Species**	**Acute Limit** LC_{50}
March June September December	April 30 July 31 October 31 January 31	*Ceriodaphnia dubia* (Daphnid)	$\geq$ 100%

*13. The LC_{50} 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.

*14. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the Permittee shall follow procedures outlined in **Attachment A, Section IV., DILUTION WATER,** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") 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 the NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at http://www.epa.gov/region01/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 shall be transmitted to the Permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachment A.** If the permittee uses an alternative dilution water, the ambient water will still need to be tested.

*15. For each whole effluent toxicity test the permittee shall report on the appropriate discharge monitoring report, (DMR), the concentrations of the hardness, 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.1. (Continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 Standard Units (S.U.) at any time.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.

e. The permittee's treatment facility will maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD_5 and TSS values collected during dry weather days.

f. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

g. The results of sampling for any parameter analyzed in accordance with EPA approved methods above its required frequency must also be reported.

h. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow [80% x 67 MGD= 54 MGD], the permittee shall submit a report to MassDEP by **April 30** of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the effluent flow limit and all other effluent limitations and conditions.

2. All POTWs must provide adequate notice to EPA-Region 1 and the State of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into 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 will include information on:

(1) the quantity and quality of effluent introduced into the POTW; and
(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

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

4. Toxics Control

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

   b. Any toxic components of the effluent will 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.

5. Numerical Effluent Limitations for Toxicants

   a. 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. COMBINED SEWER OVERFLOWS (CSOs)

1. Effluent Limitations

During wet weather, the permittee is authorized to discharge storm water/wastewater from the CSO outfalls listed below:

Outfall No.	**Location**	**Latitude**	**Longitude**
To Connecticut River			
007	Rowland St.	42º 12’N	72º 62’W
008	Washburn St. 4	42º 11’N	72º 62’W
010	Clinton St.	42º 10’N	72º 60’W
011	Liberty St.	42º 10’N	72º 59’W
012	Worthington St.	42º 10’N	72º 59’W
013	Bridge St.	42º 10’N	72º 59’W
014	Elm St.	42º 10’N	72º 59’W
015A	Union St.	42º 10’N	72º 59’W
015B	Union St.	42º 10’N	72º 59’W
016	York St.	42º 09’N	72º 59’W
018	Longhill St.	42º 06’N	72º 58’W
049	Springfield St.	42º 10’N	72º 62’W
042	Bondi Island		

To Chicopee River			
034	Main St.	42º 16'N	72º 51'W
035	Front & Oak Sts.	42º 16'N	72º 50'W
036A	Pinevale & Water Sts.	42º 16'N	72º 50'W
037	Cedar St. 4	42º 16'N	72º 50'W
To Mill River			
017	Fort Pleasant (Blake Hill)	42º 09'N	72º 58'W
019	Mill, Orange, & Locust Sts.	42º 09'N	72º 57'W
024	Rifle & Central Sts.	42º 10'N	72º 56'W
025	Allen & Oakland Sts.	42º 10'N	72º 56'W
045	Fort Pleasant Ave.	42º 06'N	72º 58'W
046	Belmont St.	42º 06'N	72º 58'W
048	Allen & Rifle Sts.	42º 10'N	72º 56'W

2. The effluent discharged from these CSOs is subject to the following limitations:

   a. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgment (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control includes the implementation of Nine Minimum Controls (NMC) specified below. These Nine Minimum Controls and the Nine Minimum Controls Minimum Implementation Levels which are detailed further in Part I.B.3. are requirements of this permit.

      (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;

      (2) Maximum use of the collection system for storage;

      (3) Review and modification of the pretreatment program to assure CSO impacts are minimized;

      (4) Maximization of flow to the POTW for treatment;

      (5) Prohibition of dry weather overflows from CSOs;

      (6) Control of solid and floatable materials in CSOs;

      (7) Pollution prevention programs that focus on contaminant reduction activities;

(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts;

(9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

b. The discharges shall not cause or contribute to violations of federal or state Water Quality Standards.

3. Nine Minimum Controls Minimum Implementation Levels

a. The permittee must implement the nine minimum controls in accordance with the documentation provided to, and under review by, EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the controls identified in Part I.B.3. plus other controls the permittee can reasonably undertake as set forth in the documentation.

b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to ensure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). For any structure that is inaccessible, a description of the conditions which preclude the inspection from taking place shall be recorded and shall be included with the annual inspection certification that is sent to EPA and MassDEP, as required by this section. The following inspection results shall be recorded: the date and time of inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

Annually, no later than April 30th, the permittee shall submit a certification to MassDEP and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

MassDEP and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

c. Except for discharges from domestic sources to the sanitary sewer system, discharges to the combined system of septage, holding tank wastes, or other material, which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active (NMC # 3, 6, and 7).

d. Dry weather overflows (DWOs) are prohibited (NMC # 5). Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP orally within 24 hours of the time the permittee becomes aware of the

circumstances and a written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. See also Paragraph D.1.e of Part II of this permit.

e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9). Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.B.4.:

a. Duration (hours) of discharge;
b. Volume (gallons) of discharge;
c. Precipitation data from the nearest Springfield Water and Sewer Commission gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

A discharge event is defined as any time there is flow discharged from any CSO outfall, including discontinuous flow, that occurs during a precipitation-related event. Precipitation-related includes rainfall, snowfall, and snowmelt.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC # 8). The signs must be located at or near the combined sewer outfall structures and easily readable by the public from the land and water. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

SPRINGFIELD WATER AND SEWER COMMISSION
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent feasible, shall place additional signs in Spanish or add a universal wet weather sewage discharge symbol to existing signs.

g. Public Notification Plan

(1) Within 12 months of the effective date of the permit, the permittee shall submit to EPA and MassDEP a Public Notification Plan describing the measures that will be taken to meet NMC#8 in Part I.B.2. of this permit (NMC #8). The public

notification plan shall include the means for disseminating information to the public, including communicating the initial and supplemental notifications through posting on a website, as well as procedures for communicating with public health departments, and downstream communities, whose waters may be affected by discharges from the Permittee's CSOs.

(2) Initial notification of a probable CSO activation shall be provided to the public as soon as practicable, but no later than, two (2) hours after becoming aware by monitoring, modeling or other means that a CSO discharge has occurred. In addition to posting this notification to a website, this information may also be communicated using other electronics means. The initial notification shall include the following information:

Date and time of probable CSO discharge
CSO number and location

(3) Supplemental notification shall be provided to the public as soon as practicable, but no later than, twenty-four (24) hours after becoming aware of the termination of any CSO discharge(s). In addition to posting this notification to a website, this information may also be communicated using other electronics means. The supplemental notification shall include the following information:

CSO number and location
Confirmation of CSO discharge
Date, start time and stop time of the CSO discharge

(4) Annual notification - Annually, by April 30th, the permittee shall post information on the locations of CSOs, a summary of CSO activations and volumes, status and progress of CSO abatement work, the impacts of CSOs on water quality, and contacts for additional information on CSOs, to a website.

(5) The initial, supplemental, and annual public notification requirements shall become effective 180 days following the effective date of the permit.

(6) The Public Notification Plan shall be implemented no later than 24 months following the effective date of the permit.

4. CSO Monitoring and Reporting

Annually, no later than April 30th, the permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls. The annual report shall also include the CSO outfall monitoring information set forth below:

Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.B.4.:

For each combined sewer outfall (CSO **outfalls #007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042, 049, 034, 035, 036A, 037 017, 019, 024, 025, 045, 046, and 048)**, the permittee must monitor and report the following:

Combined Sewer Outfall Monitoring [a, b, c]			
Parameters	**Reporting Requirements**	**Monitoring Requirements**	
	Total Monthly	**Measurement Frequency**	**Sample Type**
Total Flow	Report Gallons	Daily, when discharging	Continuous
Total Flow Duration (Duration of flow through CSO)	Report Hours	Daily, when discharging	Continuous
Number of CSO Discharge Events	Report Monthly Count	Daily, when discharging	Count

a. For Total Flow, measure the total flow discharged from each CSO outfall during the month. For Total Flow Duration provide the total duration (hours) of discharges for each CSO outfall during the month.

b. For those months in which a CSO discharge does not occur, the Permittee must indicate "no discharge" for the outfall for which data was not collected.

c. This information shall be submitted with the annual report required by Part I.B.4. of this permit.

C. 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 outfalls listed in Part I.A.1.and Part I.B.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 Part II.D.1.e. (1) of the General Requirements of this permit (Twenty-four-hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instructions for its completion may be found online at http://www.mass.gov/eea/agencies/massdep/service/approvals/sanitary-sewer-overflow-bypass-backup-notification.html.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D and Part E of this permit. Each of the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall only be responsible under Part II, Part C, Part D and Part E of this permit for only its own infrastructure, activities and required reporting with respect to the portions of the collection system that each owns or operates.

Operation and maintenance of that portion of the collection system and the entirety of the treatment system owned and operated by the Springfield Water and Sewer Commission shall be in compliance with the terms and conditions of Part C, Part D and Part E of this permit and the General Requirements of Part II. The Springfield Water and Sewer Commission shall only be responsible under Part C, Part D and Part E of this permit and the General Requirements of Part II for its own infrastructure, activities and required reporting with respect to the portion of the collection and treatment system that it owns or operates. No Permittee shall be responsible for violations of Part C, Part D and Part E of this permit and/or the General Requirements of Part II committed by another Permittee relative to the portions of the collection system owned and operated by such other Permittee. In the event of any conflict between the above provisions and any other term or provision of this Permit, the above provisions shall control. The permittee and each co-permittee are required to complete the following activities for the respective portions of the collection system which they operate:

1. Maintenance Staff

   The permittee and co-permittees shall each 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 will be described in the Collection System O & M Plan required pursuant to Section D.5. below.

2. Preventative Maintenance Program

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

3. Infiltration/Inflow:

   The permittee and co-permittees shall each 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 D.5. below.

4. Collection System Mapping

Within 30 months of the effective date of this permit, the permittee and co-permittees shall each prepare a map of each 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. To the extent feasible, the pipe diameter, date of installation, type of material, distance between manholes, interconnections with collection systems owns by other entities, and the direction of flow shall be provided. If certain information is determined to be infeasible to obtain, a justification must be included along with the map. If EPA disagrees with the assessment, it may require the map to be updated accordingly.

5. Collection System Operation and Maintenance Plan

The permittee and co-permittees shall each develop and implement a Collection System Operation and Maintenance Plan.

a. **Within six (6) months of the effective date of the permit**, the permittee and co-permittees shall each submit to EPA and MassDEP:

(1) A description of the collection system management goal, 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 all 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 completed, implemented, and submitted to EPA and MassDEP **within twenty-four (24) months from the effective date of the permit**. The Plan shall include:

(1) The required submittal from paragraph 5.a. above, update to reflect current information;

(2) A preventative 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;

(7) An educational public outreach program for all aspects of I/I control, particularly private inflow; and

(8) An Overflow Emergency Response Plan 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 and co-permittees shall each 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 April 30**. 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 its design flow [53.6 mgd] based on the annual average flow during the reporting year, 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.

E. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall provide an alternate power source with which to sufficiently operate the wastewater facility, as defined at 40 CFR § 122.2, which references the definition at 40 CFR § 403.3(q).

F. SLUDGE CONDITIONS

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

2. If both state and federal requirements apply to the permittee's sludge use and/or disposal practices, the permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil

   b. Surface disposal - the placement of sewage sludge in a sludge only landfill

   c. Sewage sludge incineration - the placement of sewage sludge in a sludge only incinerator.

4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.

5. The 40 CFR Part 503 requirements including the following elements:

   - General requirements
   - Pollutant limitations
   - Operational Standards (pathogen reduction and vector attraction reduction requirements)
   - Management practices
   - Record keeping
   - Monitoring
   - Reporting

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

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

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

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

7. Under 40 CFR § 503.9(r), the permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the permittee contracts with *another* "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

8. The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or §

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

503.48 (incineration)) by **February 19th** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted electronically using EPA's Electronic Reporting tool ("NeT") (see "Monitoring and Reporting" section below). If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:

a. Name and address of contractor(s) responsible for sludge preparation, use or disposal

b. Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.

G. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. 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. Within 120 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. In preparing this evaluation, the permittee shall complete and submit the attached form (see **Attachment C – Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall complete the revisions within 18 months 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).

2. 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 Part 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.

3. The permittee shall provide the EPA and MassDEP with an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this permit and shall be submitted no later than **April 30th** of each year.

4. 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(c).

5. 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 Part 405 et. seq.

6. 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 I's approval under 40 CFR § 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.1.

H. SPECIAL CONDITIONS

1. Nitrogen

a. The Permittee shall continue to optimize the treatment facility operations relative to total nitrogen (“TN”) removal through continued ammonia removal, maximization of solids retention time while maintaining compliance with BOD5 and TSS limits, and/or other operational changes designed to enhance the removal of nitrogen.

b. The permittee shall submit an annual report to EPA and MassDEP by February 1st of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous calendar year. The report shall also include all supporting data.

c. **Annually, no later than April 30th**, the permittee shall submit a report evaluating the impact of CSO abatement projects on nitrogen loads discharged from the WWTF. The report shall include a comparison of 2012-2016 conditions with conditions as of the date of the report with respect to the volume of sanitary sewage and of stormwater discharged through CSOs and through the WWTF. The report shall also include the expected change in volume and nitrogen load from the WWTF from sanitary sewage and stormwater flows in connection with CSO mitigation projects not included in the analysis of conditions as of the report date, but expected to be completed within the following five years.

2. *E. coli* Limitations

a. *E. coli* limitations become effective one year from the effective date of the permit. *E. coli* monitoring is required until the limits go into effect. Fecal coliform limits and monitoring requirements remain in effect until the *E. coli* limits take effect.

3. Ambient Total Phosphorus Monitoring

a. The Permittee shall develop and implement a sampling and analysis plan for collecting monthly total phosphorus samples from the Connecticut River at a representative location upstream of the facility. Samples shall be collected once per month, from April through October, during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. The sampling plan shall be submitted to EPA and MassDEP as part of a Quality Assurance Project at least three months prior to the first planned sampling date.

b. Ambient monitoring must begin in April of the first odd numbered year that occurs at least six months after permit issuance, and during odd numbered years thereafter, the Permittee shall collect monthly samples from April through October at a location in the receiving water upstream of the facility and analyze the samples for total phosphorus. Sampling shall be conducted on any calendar day that is preceded by at least 72 hours with less than or equal to 0.1 inches of cumulative rainfall. For the years that monitoring is not required, the Permittee shall report NODI code "9" (conditional monitoring not required).

4. Outfall 042 - Control of Solids and Floatable Materials in CSOs

a. The requirements in Part I.B.2.a.(6)., Control of solids and floatable materials in CSOs, as it applies to outfall 042, go into effect one year from the effective date of the permit.

I. MONITORING AND REPORTING

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

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

The permittee may consolidate reporting information which are on similar reporting schedules, in order to reduce or eliminate redundancy.

1. Submittal of DMRs Using NetDMR

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

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.E.5. for more information on state reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report that is submitted electronically as a NetDMR attachment will be considered timely if it is submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

3. Submittal of Pre-treatment Related Reports

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

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

E. Proposed changes to a Pretreatment Program

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

U.S. Environmental Protection Agency
Water Division
Regional Pretreatment Coordinator
5 Post Office Square - Suite 100 (06-03)
Boston, MA 02109-3912

4. Submittal of Biosolids/Sewage Sludge Reports

By **February 19** of each year, the permittee must electronically report their annual Biosolids/Sewage Sludge Report for the previous calendar year using EPA's NPDES Electronic Reporting Tool found on the internet at https://www.epa.gov/compliance/npdes-ereporting.

5. Submittal of Requests and Reports to EPA/OEP

The following requests, reports, and information described in this permit shall be submitted to the EPA/WD NPDES Applications Coordinator in the EPA Water Division (WD).

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

These reports, information, and requests shall be submitted to EPA/WD electronically at R1NPDESReporting@epa.gov or by hard copy mail to the following address:

U.S. Environmental Protection Agency
Water Division
EPA/WD NPDES Applications Coordinator
5 Post Office Square – Suite 100 (06-03)
Boston, MA 02109-3912

6. Submittal of Reports in Hard Copy Form

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

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

c. CSO Public Notification Plan
d. Collection System Operation and Maintenance Plan
e. Report on annual activities related to O&M Plan

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

U.S. Environmental Protection Agency
Enforcement and Compliance Assurance Division
Water Compliance Section
5 Post Office Square, Suite 100 (04-SMR)
Boston, MA 02109-3912

7. State Reporting

Duplicate signed copies of all WET test reports shall be submitted to the Massachusetts Department of Environmental Protection, Division of Watershed Management, at the following address:

Massachusetts Department of Environmental Protection
Bureau of Water Resources
Division of Watershed Management
8 New Bond Street
Worcester, MA 01606

6. Verbal Reports and Verbal Notifications

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

EPA's Enforcement and Compliance Assurance Division: 617-918-1510

and to

MassDEP's Emergency Response: 888-304-1133.

J. STATE PERMIT CONDITIONS

1. 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 CFR 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 will have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit will be effective only with respect to the Agency taking such action, and will 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 will remain in full force and effect under Federal law as an 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 will remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

ATTACHMENT A

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

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

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

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

II. METHODS

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

http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm

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

III. SAMPLE COLLECTION

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

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

All samples held overnight shall be refrigerated at 1- 6^{o}C.

IV. DILUTION WATER

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

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

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

and

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

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

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

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

V. TEST CONDITIONS

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

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS[1]

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

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

Footnotes:

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

EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST[1]

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

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

ATTACHMENT B

EPA - New England

Reassessment of Technically Based Industrial Discharge Limits

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

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

Please read direction below before filling out form.

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

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

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

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

ITEM III.

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

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

ITEM V.

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

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

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

Item VI.

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

(Item VI. continued)

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

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

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

ITEM VII.

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

ITEM VIII.

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

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

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

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

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

NPDES PERMIT # : _____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance : _____

ITEM I.

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

ITEM II.

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

ITEM III.

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

ITEM IV.

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

_____

_____

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

If yes, explain.

_____

_____

ITEM V.

Using current POTW influent sampling data fill in Column (1). In Column (2), list your Maximum Allowable Headwork Loading (MAHL) values used to derive your TBLLs listed in Item II. In addition, please note the Environmental Criteria for which each MAHL value was established, i.e. water quality, sludge, NPDES etc.				
Pollutant	Column (1) Influent Data Analyses Maximum (lb/day)	Average (lb/day)	Column (2) MAHL Values (lb/day)	Criteria
Arsenic				
Cadmium				
Chromium				
Copper				
Cyanide				
Lead				
Mercury				
Nickel				
Silver				
Zinc				
Other (List)				

ITEM VI.

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

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

*Hardness Dependent (mg/l - CaCO3)

ITEM VII.

In Column (1), identify all pollutants limited in your new/reissued NPDES permit. In Column (2), identify all pollutants that were limited in your old/expired NPDES permit.			
Column (1) NEW PERMIT Pollutants Limitations (ug/l)		Column (2) OLD PERMIT Pollutants (ug/l)	Limitations

ITEM VIII.

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

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

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

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

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limits;

2. A summary of compliance and enforcement activities during the preceding year, including the number of:
   - significant industrial users inspected by POTW (include inspection dates for each industrial user),
   - significant industrial users sampled by POTW (include sampling dates for each industrial user),
   - compliance schedules issued (include list of subject users),
   - written notices of violations issued (include list of subject users),
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users) and,
   - penalties obtained (include list of subject users and penalty amounts);

3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

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

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

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

6. A detailed description of all interference and pass-through that occurred during the past year;

7. A thorough description of all investigations into interference and pass-through during the past year;

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,

10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)[1]

TABLE OF CONTENTS

[1] Updated July 17, 2018 to fix typographical errors.

A. GENERAL REQUIREMENTS

1. Duty to Comply

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

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L.114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

(a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than 2 years, or both.

(b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

(c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(2) *Civil Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(3) *Administrative Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:

(a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

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

condition.

3. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from responsibilities, liabilities or penalties to which the Permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

5. Property Rights

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

6. Confidentiality of Information

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

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

(1) The name and address of any permit applicant or Permittee;
(2) Permit applications, permits, and effluent data.

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

7. Duty to Reapply

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

8. State Authorities

Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity

covered by the regulations in 40 C.F.R. Parts 122, 123, and 124, whether or not under an approved State program.

9. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

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

b. *Bypass not exceeding limitations.* The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this Section.

c. Notice

(1) *Anticipated bypass*. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(2) *Unanticipated bypass*. The Permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or required to do so by law.

d. *Prohibition of bypass.*

(1) Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:

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

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The Permittee submitted notices as required under paragraph 4.c of this Section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 4.d of this Section.

5. Upset

a. *Definition*. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

improper operation.

b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated; and
(3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
(4) The Permittee complied with any remedial measures required under B.3. above.

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

C. MONITORING REQUIREMENTS

1. Monitoring and Records

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

b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

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

d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.

e. The Clean Water Act provides that any person who falsifies, tampers with, or

knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

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

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

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

D. REPORTING REQUIREMENTS

1. Reporting Requirements

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

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. § 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements at 40 C.F.R. § 122.42(a)(1).

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

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

c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.

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

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.

(2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

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

e. *Twenty-four hour reporting.*

(1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

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

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

(3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.

f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.

h. *Other information.* Where the Permittee becomes aware that it failed to submit any

relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

i. *Identification of the initial recipient for NPDES electronic reporting data*. The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in Appendix A to 40 C.F.R. Part 127) to the appropriate initial recipient, as determined by EPA, and as defined in 40 C.F.R. § 127.2(b). EPA will identify and publish the list of initial recipients on its Web site and in the FEDERAL REGISTER, by state and by NPDES data group (see 40 C.F.R. § 127.2(c) of this Chapter). EPA will update and maintain this listing.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under paragraph A.6. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

For more definitions related to sludge use and disposal requirements, see EPA Region 1's NPDES Permit Sludge Compliance Guidance document (4 November 1999, modified to add regulatory definitions, April 2018).

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

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

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

"approved States," including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

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

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

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

Bypass see B.4.a.1 above.

C-NOEC or *"Chronic (Long-term Exposure Test) – No Observed Effect Concentration" means* the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 C.F.R. § 501.2, required to have an approved pretreatment program under 40 C.F.R. § 403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 C.F.R. § 403.10 (e)) and any treatment works treating domestic sewage, as defined in 40 C.F.R. § 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

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

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

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

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily Discharge means the "discharge of a pollutant" measured during a calendar day or any

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

Direct Discharge means the "discharge of a pollutant."

Director means the Regional Administrator or an authorized representative. In the case of a permit also issued under Massachusetts' authority, it also refers to the Director of the Division of Watershed Management, Department of Environmental Protection, Commonwealth of Massachusetts.

Discharge

(a) When used without qualification, *discharge* means the "discharge of a pollutant."

(b) As used in the definitions for "interference" and "pass through," *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

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

Discharge of a pollutant means:

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

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

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

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

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

Environmental Protection Agency ("EPA") means the United States Environmental Protection

Agency.

Grab Sample means an individual sample collected in a period of less than 15 minutes.

Hazardous substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

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

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Interference means a discharge (see definition above) which, alone or in conjunction with a discharge or discharges from other sources, both:

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

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

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

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

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

LC_{50} means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.

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

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 C.F.R. § 257.2. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be

publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Municipality

(a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.

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

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

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

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

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

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

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

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

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

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

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

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

NPDES means "National Pollutant Discharge Elimination System."

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

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

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

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (40 C.F.R § 122.28). "Permit" does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or "proposed permit."

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

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

pH means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 C.F.R. § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials

(except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq*.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

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

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

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

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

Publicly owned treatment works (POTW) means a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition 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.

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

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

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

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 C.F.R. Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

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

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does

not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 C.F.R. § 122.2.

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

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

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

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 C.F.R. § 122.1(b)(2).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in the regulations which meets the requirements of 40 C.F.R. § 123.31.

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

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

Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

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

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

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

For purposes of this definition, "domestic sewage" includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Director may designate any person subject to the standards for sewage sludge use and

disposal in 40 C.F.R. Part 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 C.F.R. Part 503.

Upset see B.5.a. above.

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

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

Waters of the United States or waters of the U.S. means:

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

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

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

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

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

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

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

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

(f) The territorial sea; and

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

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland.

Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

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

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test.

*Zone of Initial Dilution (*ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards.

2. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont.	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen

kg/day	Kilograms per day
lbs/day	Pounds per day
mg/L	Milligram(s) per liter
mL/L	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
µg/L	Microgram(s) per liter
WET	"Whole effluent toxicity"
ZID	Zone of Initial Dilution

RESPONSE TO COMMENTS
REISSUANCE OF NPDES PERMIT NO. MA0101613
SPRINGFIELD WATER AND SEWER COMMISSION
SPRINGFIELD REGIONAL WASTWATER TREATMENT FACILITY AND 24 COMBINED SEWER OVERFLOW OUTFALLS
AGAWAM, MASSACHUSETTS

On November 15, 2017, the U.S. Environmental Protection Agency ("EPA") and the Massachusetts Department of Environmental Protection ("MassDEP") released a draft National Pollutant Discharge Elimination System ("NPDES") permit for public notice and comment for the Springfield Regional Wastewater Treatment Facility and 24 Combined Sewer Overflow outfalls ("CSOs") (the "2017 Draft Permit"). Upon a request from the Permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests for a public hearing from the Connecticut Department of Energy and Environmental Protection ("CTDEEP") and others, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 and held a public hearing on April 24, 2018. During the public notice and comment periods on the 2017 Draft Permit, EPA received written comments from Springfield Water and Sewer Commission ("SWSC" or the "Permittee"); the Town of Agawam, Massachusetts, the Town of East Longmeadow, Massachusetts, the City of West Springfield, Massachusetts, the Town of Wilbraham, Massachusetts (together, "Co-Permittees"); CTDEEP, the Connecticut Fund for the Environment and Save the Sound ("Save the Sound"), the Connecticut River Conservancy ("CRC"), the Massachusetts Water Resources Authority ("MWRA") and Paul Hogan. At the public hearing, testimony was provided by CT DEEP, Bill Lucy of Save the Sound, Andrea Donlon of the CRC, Joshua Schimmel of the SWSC, and Jack Looney of Save the Sound.

After considering the comments received, EPA determined that different nitrogen and CSO notification requirements were necessary to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River, and accordingly published a revised Draft Permit ("Revised Draft Permit") on August 17, 2018. At the request of the Permittee, the public comment period was extended to October 15, 2018. Comments on the Revised Draft Permit were received from the SWSC, CT DEEP, the Connecticut River Conservancy, Save the Sound and MWRA.

Following a review of the comments received, EPA and MassDEP ("Agencies") have made a final decision to issue the permit authorizing this discharge. The Agencies have benefited from the various comments and additional information submitted. While the information and arguments presented did not raise any substantial new questions concerning the permit, EPA did make certain clarifications and other revisions to the final permit in response to comments. These improvements and changes are detailed in this document and reflected in the final permit. In accordance with the provisions of 40 CFR §124.17, the comments received and EPA's responses to those comments, including a description of any changes made to the permit as a result of those comments, as well as any clarifications EPA considers necessary, are described below.

This permit is being jointly issued by EPA and MassDEP. EPA will generally present responses to comments as EPA's and MassDEP's, even where the reference is only to EPA. MassDEP's certification and joint issuance of the permit establishes that MassDEP affirms EPA's

response. Accordingly, this document represents the joint determinations of EPA and MassDEP, which are reflected in separately enforceable discharge permits issued under federal and state law.

A copy of the Final Permit may be obtained by calling or writing Meridith Finegan, United States Environmental Protection Agency, Region I, 5 Post Office Square – Suite 100, Mail Code OEP06-1, Boston, Massachusetts 02109-3912, Telephone (617) 918-1533. Copies of the Final Permit and the Response to Comments may also be obtained from the EPA Region I website at https://www3.epa.gov/region1/npdes/permits_listing_ma.html.

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Appendices

SUMMARY OF CHANGES TO THE FINAL PERMIT

1. Cover Page – Clarification that the Final Permit supersedes both NPDES Permit No. MA0101613, signed December 8, 2000, as well as NPDES Permit No. MA0103331, signed September 30, 2009. See Response 32.
2. Cover Page – Clarification that the co-permittees are responsible for Parts C (Unauthorized Discharges), D (Operation and Maintenance), and E (Alternate Power Source) in the Final Permit. See Response 1.
3. Cover Page – Titles revised to reflect current organizational structure at EPA and MassDEP.
4. Part I.A.1., page 3 – Removal of the following statement: A bypass of secondary treatment is allowed when wet weather influent flow exceeds the wet weather capacity of the secondary treatment. See Response 2.
5. Part I.A.1. – Addition of seasonal total phosphorus effluent monitoring requirement and footnote directing reader to ambient total phosphorus upstream ambient monitoring requirement in Part I.H. See Response 75.
6. Part I.A.1., page 5 – Revision to include a total nitrogen effluent limit of 2,794 lbs/day. See General Response.
7. Part I.A.1., Footnote 3 – Revision to include the following: "A bypass of secondary treatment is subject to the requirements of Part II.B.4. and Part II.D.1.e. of the permit". See Response 2.
8. Part I.A.1., Footnote 3 – "Total influent flow" has been defined as "the instantaneous flow at the time of the closest measurement taken when the bypass of secondary treatment commenced as well as when it was terminated." See Response 2.
9. Part I.A.1., Footnote 3 – The requirement to measure flows which bypass secondary treatment using a meter shall become effective within six months of the effective date of the permit. See Response 2.
10. Part I.A.1., Footnote 3 – Correction of typographical error.
11. Part I.A.1., Footnote 3 – Revision to read as follows: "The Permittee shall not add septage to the waste stream at the treatment plant during activation of the secondary treatment bypass". See Response 12.
12. Part I.A.1. and Part I.H. – The date on which the *E. coli* limitations go into effect has been revised to one year from the effective date of the permit. Interim *E. coli* monitoring is required until the limits go into effect. Fecal coliform limits and monitoring requirements remain in effect until the *E. coli* limits take effect. See Response 17.
13. Part I.A.1., Footnote 4 – Removal of the following statement: "Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP". See Response 23.

14. Part I.A.1., Footnote 4 – Addition of language clarifying that occasional deviations from the routine sampling program are allowed, provided the reason for the deviation is documented in correspondence appended to the applicable discharge monitoring report that is submitted for the monitoring period in which a change in the sampling program was necessary. See Response 23.

15. Part I.A.1., Footnote 4 – Addition of language requiring the use of sufficiently sensitive test methods. See Response 18.

16. Part I.A.1., Footnote 6 – Revision to allow up to six months from the effective date of the permit for the Permittee to either submit information to EPA regarding their preferred method of collecting a composite sample of the influent or to comply with the composite sample collection method in the permit. See Response 21.

17. Part I.A.1., Footnote 8 – Removal of the defined minimum level for total residual chlorine monitoring. See Response 18.

18. Part I.A.1., Footnotes 10 and 11 – Clarification of how total nitrogen, average monthly load and maximum daily load values are to be calculated and reported. See Response 22 and Response 44.

19. Part I.A.1., Footnote 10 (footnote 9 in the Draft Permit) – Removal of references to allowable TN increases upon the completion of CSO reduction projects. See Response 48.

20. Part I.A.1., Footnote 12 (footnote 10 in the Draft Permit) – Removal of reference to "C-NOEC". Removal of Attachment B from the Final Permit (Freshwater Chronic Toxicity Test and Procedure and Protocol) and removal of references to this attachment from footnotes 12, 14 and 15 (footnotes 10, 12 and 13 of the Draft Permit) of the Final Permit. See Response 113.

21. Part I.B. – All CSO monitoring and reporting requirements have been consolidated under Part I.B.4. for clarification and to eliminate redundancy. See Response 43.

22. Part I.B.3, subparagraphs. have been re-numbered. References to subparagraphs in this Response to Comments use the correct numbering unless specifically noted.

23. Part I.B.3.a. – Clarification that documentation of the implementation of the Nine Minimum Controls (NMCs) has been submitted and is under review by EPA and MassDEP. See Response 7.

24. Part I.B.3.a., second sentence in third paragraph – Modification to read as "must include the controls identified in Part I.B.3. of this Permit". See Response 7.

25. Part I.B.3.b. – Following Revision (revised language in italics): "Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to ensure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). *For any structure that is inaccessible, a description of the conditions which preclude the inspection from taking place shall be recorded and shall be included with the annual inspection certification that is sent to EPA and MassDEP*, as required by this section. See Response 8.

26. Part I.B.3.c. – Clarification that the prohibition on discharges to the combined collection system during wet weather when CSOs may be discharging does not apply to domestic sources. See Response 12.

27. Part I.B.3.d. – Addition of the definition of dry weather. See Response 10.

28. Part I.B.3.e. – Definition of a "discharge event" as "any time there is flow discharged from any CSO outfall, including discontinuous flow, that occurs during a precipitation-related event". "Precipitation-related" includes rainfall, snowfall, and snowmelt. See Response 9.

29. Part I.B.3.e. – References to "National Weather Service" rain gages have been replaced with "SWSC rain gages". See Response 9.

30. Part I.B.3.g., Public Notification – Extension of the deadline for the submittal and implementation of the public notification plan to within 12 and 24 months of the effective date of the permit, respectively. See Response 42.

31. Part I.B.3.g. – Addition of the requirement for CSO notifications to be posted on the Permittee's website. See Response 86.

32. Part I.B.3.g. – Removal of references to "affected party" and "affected entities". See Response 42.

33. Part I.B.3.g.- Clarification that the annual notification shall include information on "CSO impacts on water quality". See Response 42.

34. Part I.B.3.g., Public Notification, Supplemental Notification – Removal of the requirement to include CSO volume data in the supplemental notification. See Response 42.

35. Part I.B.4., Annual Notification – Clarified to read as follows: "**Annually, no later than April 30th,** the Permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls. The annual report shall include the CSO outfall monitoring data required by Part I.B.5. of this permit". See Response 9.

36. Part I.B.5. – This section has been consolidated under Part I.B.4.

    "CSO Outfalls" has been changed to "Combined Sewer Overflow Outfall Monitoring" for clarification.

    Combined Sewer Overflow Outfall Monitoring – removal of the requirement to submit CSO monitoring data with monthly DMRs. This information shall be submitted with the annual report. See Response 9 and Response 43.

    Footnote b. has been modified to read as "For those months in which a CSO discharge does not occur, the Permittee must indicate "no discharge" for the outfall for which data was not collected." Addition of Footnote c, which states "This information shall be submitted with the annual report required by Part I.B.4. of this permit."

37. Part I.D.2. – Correction of typographical error in the first statement. See Response 33.

38. Part I.D.4.k – Revision to include "to the extent feasible." The Final Permit also requires the following: "If certain information is determined to be infeasible to obtain, a justification

must be included along with the map. If EPA disagrees with the assessment, it may require the map to be updated accordingly." See Response 13.

39. Part I.G.1. – Modification of the due date for completing necessary revisions to local limits. See Response 16.

40. Part I.G.3. – Modification of the due date for submitting the annual pretreatment report to April 30th. See Response 30.

41. Part I.H., Special Conditions, allows the Permittee up to one year from the effective date of the permit to comply with Part I.B.2.a.(6). (Control of Solids and floatable materials in CSOs) of the Final Permit as is it applies to outfall 042. See Response 6.

42. Part I.H., Special Conditions, allows the Permittee up to one year from the effective date of the permit to comply with Part I.B.2.a.(6). (Control of Solids and floatable materials in CSOs) of the Final Permit as is it applies to outfall 042. See Response 6.

43. Part I.H., Special Conditions – Addition of ambient total phosphorus monitoring. See Response 75.

44. Part I., Attachment E – Revision to remove the attachment entitled "Allowable TN Load Increases", as the higher load limit in the Final Permit accounts for any additional loading that may result from the completion of CSO projects. References to allowable TN load increases following the completion of CSO projects have also been removed from the cover page and footnote 10 to Part I.A.1. See Response 48.

45. Part I.I.2. of the Final Permit has been modified to clarify the date by which an attachment that is submitted using NetDMR will be considered timely. See Response 14.

GENERAL RESPONSE TO COMMENTS ON LONG ISLAND SOUND ("LIS") NPDES OUT-OF-BASIN TOTAL NITROGEN PERMITTING APPROACH

Numerous comments were received regarding the new total nitrogen ("TN") effluent limits. This General Nitrogen Response ("General Response") provides a comprehensive explanation of the overall approach EPA has adopted to address TN effluent limitations for out-of-basin POTWs discharging to Long Island Sound, taking into account the Clean Water Act (CWA or "the Act"), implementing regulations, case law and varied technical and policy considerations. It addresses the comments received regarding the new TN effluent limits and is referenced in many of the responses to those specific comments that follow.

While this permitting approach governs the application of TN effluent limits in the specific permit here and allows EPA to place those limits within a wider frame of reference in order to explain their derivation, EPA underscores that NPDES permits are adjudicated on a case-by-case, permit-specific basis. The limits imposed here, in other words, do not set a precedent for other permittees, and do not bind EPA, or other regulated entities, in future permit proceedings, which will be adjudicated based on their own administrative records.

I. Introduction and Description of Permitting Approach[1]

EPA has adopted a systemic, state-by-state approach to control out-of-basin loading of nitrogen pollution into Long Island Sound from POTW point sources in Massachusetts, New Hampshire, and Vermont, through the coordinated issuance of individual NPDES permits ("Out-of-Basin Permitting Approach"). These out-of-basin facilities have not been assigned waste load allocations ("WLAs") under the Long Island Sound Total Maximum Daily Load[2] ("TMDL") approved by EPA in 2001. The task of allocating nitrogen loads among these facilities in a manner that ensures compliance with water quality standards, as required under Section 301 of the Act, falls to EPA. That EPA would implement any necessary reductions through the issuance and oversight of NPDES permits was expressly assumed by the TMDL. Uncontested on the record before EPA in this permit proceeding

[1] The NPDES out-of-basin permitting approach described here is distinct from the Long Island Sound Nitrogen Reduction Strategy. In December 2015, EPA sent a letter to the environmental agency commissioners of MA, CT, NY, VT and NH setting forth a post-TMDL EPA Long Island Sound Nitrogen Reduction Strategy (the "LIS Strategy") for waters in the LIS watershed. The strategy recognizes that more work may need to be done to reduce nitrogen levels, further improve dissolved oxygen ("DO") conditions, and attain other related water quality standards in LIS, particularly in coastal embayments and the estuarine portions of rivers that flow into the Sound. EPA is working to establish nitrogen thresholds for Western LIS and several coastal embayments, including the mouth of the Housatonic River. Currently, EPA is responding to comments on the agency's threshold modelling methodology from the public, external technical reviewers and our state and county partners. Documents regarding the LIS Strategy are available for public access on EPA's Long Island Sound website (http://longislandsoundstudy.net/issues-actions/water-quality/nitrogen-strategy/). Upon completion of establishing thresholds and assessing the water quality conditions of the estuarine waters of the Connecticut River, allocations of total nitrogen loadings may be lowered if further reductions are necessary. Thus, while EPA's current systemic NPDES permitting approach discussed in this general comment, and embodied in this permit, does not currently rely on data from the LIS Strategy, future efforts to establish permit limits could be informed by relevant data and recommendations that result from the LIS Strategy effort. If reductions are needed for the SWSC discharge, a lower water quality-based effluent limit will be added in a future permit cycle. If so, EPA anticipates exploring possible trading approaches for nitrogen loading in the Massachusetts portion of the Connecticut River watershed.

[2] Connecticut Department of Environmental Protection and New York State Department of Environmental Conservation, *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (LIS TMDL), December 2000.

are two facts: first, that significant amounts of nitrogen from out-of-basin facilities are discharged to the LIS watershed (as much as 6 million pounds per year, based on the sum of the maximum annual discharge from each out-of-basin discharger from 2013 to 2017) and, second, that ongoing nitrogen-driven water quality impairments exist in LIS.

When confronting the difficult environmental regulatory problem of controlling or accounting for dozens of discharges into a complex water body like Long Island Sound, EPA was presented with a variety of potential permitting approaches. Long Island Sound is a nitrogen-impaired water body spanning 1,268 square miles that implicates the sometimes divergent interests of five states, dozens of municipalities and numerous non-governmental organizations ("NGOs"), along with interested members of the public. In developing its overarching permitting approach, as well as each individual permit, EPA carefully considered, but ultimately rejected, several possible alternatives, on two principal grounds: (1) that they were not sufficiently protective to assure that all the applicable requirements of the Act would be met (*i.e.*, they lacked enforceable TN effluent limitations to *ensure* as a matter of law that nitrogen loads would be maintained at protective levels), or (2) that they would entail unwarranted uncertainty and delay (*i.e.*, they called for the development of new or revised TMDLs or for development of extensive new data collection or modelling in an attempt refine or pinpoint necessary targets and loads, even though the permits at issue have long-since expired and water quality impairments are ongoing).

Rather than approach this complex permitting task on an *ad hoc* basis, EPA instead fashioned a systemic permitting approach designed to comprehensively regulate nitrogen loading from out-of-basin nitrogen sources on a gross, basin-level scale. EPA addressed the existing TN loading to ensure achievement of the following overarching objectives:

- the overall out-of-basin TN load does not increase in accordance with antidegradation requirements, given that the LIS is already nitrogen impaired, through the imposition of enforceable effluent limits that are annual average mass-based, consistent with the assumptions of the TMDL;
- no individual facility is left with an effluent limit that is not achievable using readily available treatment technology at the facility's design flow; and
- smaller facilities can achieve their limits through optimization.

EPA's derivation of effluent limitations to implement these objectives, based on its best professional judgment and information reasonably available to the permit writer at the time of permit issuance, consists of three essential parts:

- First, EPA *identified* the existing aggregate load from all contributing facilities in a given state.
- Second, because Long Island Sound is already nitrogen impaired and failing to achieve applicable water quality standards,[3] EPA *capped* that load to avoid contributing to further impairments and fully protect existing uses.

[3] CTDEEP, Interstate Environmental Commission, EPA, *2019 Long Island Sound Hypoxia Season Review*, available at: http://www.iec-nynjct.org/sites/default/files/2020-07/FINAL_LISound-Hypoxia-2019-Combined-Report_april2020.pdf

- Third, EPA *allocated* the load according to a water quality-related consideration rationally related to achieving water quality standards in Long Island Sound and carrying out the objectives of the Act.

In the case of Massachusetts, that consideration was facility *size*, with loads distributed based on the design flow of the POTW treatment plants. In deriving design-flow-based effluent limitations, EPA utilized the following methodology:

- EPA estimated the current maximum out-of-basin annual point source load using data for the five years prior to the year of the Draft Permit, consistent with Region 1's ordinary practice of using the most recent five years of data in the derivation of effluent limits for permits, which is in accordance with the recommendation in EPA guidance to use three to five years and, by use of the longer timeframe, is intended to more fully capture a representative data set[4] (see estimate of recent effluent loadings in Appendix A);

- It prioritized effluent limits for major POTW facilities with design flow greater than 1 MGD, consistent with the definition of major facility in 40 CFR §122.2;[5]

- It developed mass-based rolling annual average TN effluent limits based on design flow (consistent with 40 CFR § 122.45(b)(1)) and effluent concentrations that can achieved by means of currently available nitrogen removal technology for all facilities and the design flow for each facility, where effluent limit (lb/day) = Concentration (mg/L) x Design Flow (MGD) x 8.345;

- For POTW facilities with design flow less than 10 MGD, EPA based limits on concentrations that can typically be achieved through optimization, with more aggressive optimization expected for facilities with design flow greater than 5 MGD; and,

- For the four POTW facilities with design flow greater than 10 MGD (which together comprise more than half of the total Massachusetts load to LIS), EPA based limits on concentrations achievable through optimization or upgrades.

EPA's intention in establishing a total nitrogen limit in this and future permits for out-of-basin dischargers is not specifically to achieve greater nitrogen reductions, but rather to cap the out-of-basin contribution in a manner that provides assurance to the downstream state that total nitrogen loading will not increase with population or economic development. That assurance is provided by means of enforceable effluent limits.

Although EPA considered caps for individual dischargers at their current loadings, that approach was rejected because these effluent limits are subject to statutory antibacksliding requirements of CWA § 402(o) which would prevent a limit from being increased if flows increase due to new residential or industrial development. Therefore, a facility currently discharging well below its design flow, could be unable to meet the loading limit if, for example, a new industrial discharger were to tie in, even if that discharger were willing to invest in readily available treatment technology. EPA examined out-of-basin loads across the watershed and developed effluent limits that are

[4] *NPDES Permit Writer's Manual*, EPA-833-K-10-001, September 2010, page 5-30, available at: https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf.
[5] *NPDES Permit Writer's Manual*, EPA-833-K-10-001, September 2010, page 2-17, available at: https://www.epa.gov/sites/production/files/2015-09/documents/pwm_2010.pdf.

achievable through optimization or readily available treatment technologies for all facilities, even if they are operating at their design flow. EPA has determined that this approach will be protective of water quality and will carefully monitor receiving water response over the permit term and adjust as necessary. EPA recognizes that Connecticut and New York have very substantially reduced their nitrogen loadings into LIS and water quality conditions have improved, although LIS is not yet fully achieving water quality standards. Additional work is being undertaken in New York and Connecticut to further reduce nitrogen loadings into LIS. It will take time to allow the impact of these reductions to be fully realized and for designated uses to be fully restored. EPA believes that this approach reasonably balances the need to hold overall TN loadings constant to avoid exacerbating ongoing nitrogen-driven environmental degradation against the inherent scientific and technical uncertainty associated with receiving water response in a water body as complex as LIS. More stringent limitations on the out-of-basin dischargers are therefore not necessitated at this time.

The basis for establishing mass-based effluent limits using facility design flow and 5, 8 and 10 mg/L as total nitrogen concentrations that facilities can meet by means of optimization or, for the four largest facilities, readily available treatment technology, meets the legal requirements of the CWA, as described in this General Response, Section III, but was derived in order to balance the burden of treatment with the four largest facilities (currently generating approximately 51 to 58 % of the Massachusetts out-of-basin load) required to meet 5 mg/L concentration at design flow, and the remaining facilities with effluent limits that can be achieved through system optimization. In tiering the facilities, EPA considered the relative magnitude of flows from these facilities and observed that there was a significant divide between the four largest facilities and the remaining facilities (67 MGD for Springfield, 17.5 MGD for Holyoke, 17 MGD for Pittsfield and 15 MGD for Chicopee compared to 8.6 MGD for North Hampton). The four largest facilities contribute 53% of the design flow for the out-of-basin watershed. EPA also observed that three of these facilities are on the main stem of the Connecticut River and Pittsfield is on the mainstem of the Housatonic, so there is little or no attenuation of nitrogen. All of these factors, in EPA's technical judgment, warranted the further additional assurance of meeting water quality standards provided by a more stringent numeric cap in loading that may necessitate a facility upgrade, as opposed to limits achievable through optimization only. (EPA also notes that the four larger facilities will be able to spread the cost of any upgrade over a much larger user base).

EPA chose the next cut off at 5 MGD partly on the assumption POTWs of greater than that size are likely to already possess the technical capability, operator sophistication and administrative capacity needed to achieve more stringent effluent limitations via optimization requirements. (To this point, EPA took notice of the fact that the 5 MGD threshold has some regulatory significance under EPA's regulations implementing the NPDES program, specifically pretreatment, where EPA determined that facilities of that size are significantly large enough to require a pretreatment program). EPA, of course, also took into account the relatively large magnitude of the loads associated with these facilities. Finally, EPA also took note of the fact that these facilities, though not serving communities as large as Springfield, Holyoke, Pittsfield and Chicopee, still have considerable ability to spread costs over user bases of considerable size.

EPA chose the 1 MGD cut off because that corresponds to the definition of major POTW under NPDES regulations. Facilities above 1 MGD account for approximately 80% of the total out-of-basin load. Because the many (41) facilities smaller than 1 MGD collectively account for a relatively

small amount of the total load, EPA believes that optimization is a reasonable point of departure for these facilities, given their comparatively small loads and user bases.

Finally, those facilities under 0.1 MGD are required to monitor and report data that may be used in future permitting cycles.

Thus, in arriving at its tiering determination, EPA considered a series of technical and environmental factors within its expertise, and also took into account equitable considerations. EPA acknowledges that the chosen tiers are not the only way to divide the out-of-basin TN allocations, but was not presented with any alternatives that capped the existing load based on design flow through the imposition of enforceable permit limits. For example, EPA considered, and rejected, the option to apply a limit based on 8 mg/L effluent limit for all facilities with design flow greater than 1 MGD (at their respective design flows) because that would result in an increase in the current loading and place a greater burden on facilities that service relatively small communities. The combined design flow for the 29 MA POTW facilities with design flow greater than 1 MGD is 196 MGD. Of this combined design flow, 60%, or 117 MGD consists of the design flow for the four largest POTWs. Under the selected permitting approach, the proportion of the permitted load from the four largest facilities will be 60% of the combined permitted load for all 29 MA facilities, consistent with the proportion of design flow. If all POTWs with design flow over 1 MGD had a concentration-based limit of 8 mg/L (or a load based limit based on 8 mg/L and design flow), the proportion of the permitted load coming from the four largest facilities would increase from 60% of the total permitted load to 90%, shifting the burden of treatment significantly from larger to smaller facilities. In addition, the total permitted TN loading from those 29 facilities would increase from 8,100 lb/day under the chosen approach to 8,600 lb/day.

II. Refinement of Out-of-Basin Permitting Approach From 2017 & 2018 Draft Permits to Final Permit

The 2017 Draft Permit proposed, in part I.H, special conditions requiring the facility to optimize system operation to meet an annual average mass-based TN optimization benchmark of 2,279 lb/day. In the Fact Sheet, EPA invited the public to also comment on two alternatives to the optimization benchmark in the Draft Permit. All three options included optimization with three different optimization benchmarks based on SWSC operation in recent years (2012-2016). The options were intended to be similar to the approach that had been taken to implement the 2000 TMDL in other out-of-basin permits, based on an agreement forged in 2012 among the five LIS watershed states, known as the "Enhanced Implementation Plan" (EIP).[6] The EIP included the following requirements for out-of-basin point source dischargers:

> Consistent with the 2000 TMDL[i], EPA and the tributary states will implement a tributary state wastewater treatment plant (WWTP) permitting strategy with a goal of essentially capping existing WWTP total nitrogen loads at or near existing levels until agreement is reached on final allocations and how they will be achieved.
>
> i. Cap upstream state WWTPs at or near existing total nitrogen loads.

[6] Long Island Sound Study Steering Committee, NY, CT, MA, NH, VT, *Enhanced Implementation Plan for the Long Island Sound Total Maximum Daily Load*, 2012. Available at: https://neiwpcc.org/our-programs/pollution-control/lis-tmdl/.

ii. Require optimization studies for upstream state WWTPs.

iii. Establish nitrogen monitoring requirements.

Footnotes:

[i] Example permit language from a permit issued in 2010 for the Town of Charlestown, NH WWTP 1) For optimization studies: Within one (1) year of the effective date of the permit, the Permittee shall complete an evaluation of alternative methods of operating the existing wastewater treatment facility to optimize the removal of nitrogen, and submit a report to EPA and NHDES-WD documenting this evaluation and presenting a description of recommended operational changes. The methods to be evaluated include, but are not limited to, operational changes designed to enhance nitrification (seasonal and year-round), incorporation of anoxic zones, septage receiving policies and procedures, and side stream management. The Permittee shall implement the recommended operational changes in order to maintain the existing mass discharge loading of total nitrogen. The annual average total nitrogen load from this facility (2004 – 2005) is estimated to be approximately 60 lbs/day. The Permittee shall also submit an annual report to EPA and NHDES-WD, by February 1st of each year that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous year. 2) For nitrogen monitoring requirements: Total kjeldahl nitrogen, ammonia nitrogen, nitrite nitrogen, and nitrate nitrogen samples shall be collected concurrently and the results reported once per month. (Weekly monitoring is required at facilities with greater than 1MGD design flow). The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen (total nitrogen = total kjeldahl nitrogen + total nitrate nitrogen + total nitrite nitrogen).

[ii] EPA and the delegated states will enforce permits consistent with the requirements of the permit with consideration given to the quality of the data used to determine the annual average nitrogen load limit and the overall strategy objective of capping existing WWTP annual average total nitrogen loads. The annual average total nitrogen load (in lbs/day) is equal to the sum of the average daily total nitrogen loading values for each month from January through December (in lbs/day), divided by 12.

Although the three TN effluent requirement options in the 2017 Draft Permit all included optimization language similar to the language provided in the EIP (footnote i), they differed in that none of them based the benchmark on the average SWSC TN discharge from 2004-2005 because SWSC had long expressed concern that the 2004-2005 estimate of 1,628 lb/day was based on limited data and was artificially low.[7] In developing the 2017 draft permit, EPA looked to the last five years of data available at that time (2012-2016), as is typical when evaluating effluent data for other pollutants (see Fact Sheet pages 11 to 25). The average annual load for 2012-2016 was 2,279 lb/day and the highest annual average loading for 2012-2016 was 2,534 lb/day. The three benchmarks proposed were:

- *2017 Draft Permit proposal:* optimize operations to meet a benchmark of 2,279 lb/day, based on the average calendar year TN load from 2012 to 2016.
- *Alternative 1:* optimize operations to meet a benchmark of 2,534 lb/day based on the maximum calendar year TN load from 2012 to 2016.
- *Alternative 2:* optimize operations to meet a benchmark of 8 mg/L to encourage a consistent level of treatment at the facility.

EPA considered extensive comments received in writing and orally during a public hearing and concluded that none of the options presented in the 2017 Draft Permit would provide assurance over the long term that nitrogen pollution from SWSC would not cause or contribute to further degradation of LIS and exacerbate the DO impairment. As a result, EPA developed a revised Draft Permit in 2018 which included a mass-based effluent limit of 2,534 lb/day (as a 12-month rolling monthly average), the optimization requirement from the 2017 Draft Permit (without the

[7] SWSC reiterated that concern in their comments on the 2017 Draft Permit Comments submitted by Joshua D. Schimmel, Executive Director, SWSC to EPA by Letter Dated February 9, 2018. Also, see Comment 27 below.

benchmark), and permission to request incremental increases in the TN effluent limit upon the completion of four planned combined sewer overflow (CSO) projects, according to increments defined in the permit.

In deciding on a TN effluent limit for the 2018 Draft Permit, EPA considered the overall purpose of including a TN effluent limit. As the intention of that limit was to cap the load at a level that the facility was already achieving, consistent with the approach taken to develop optimization benchmarks thus far, EPA found the highest annual average load (2,534 lb/day) to be more appropriate than the average annual average load (2,279 lb/day) because the effluent limit is a rolling annual average, and the highest annual load best represented the peaks in the rolling average that may occur during the year. On the other hand, the option to set the limit at 8 mg/L without a loading limit at all was rejected because of the substantial load increase that would have resulted (allowing the TN loading to increase from 2,534 lb/day to 4,473 lb/day).

In responding to comments on the SWSC Draft Permits, EPA identified a need to develop a new comprehensive approach to total nitrogen loading limits for out-of-basin dischargers to the LIS watershed and developed the approach described above. See:

- Comments 24, from SWSC: "While EPA certainly has some latitude in allocating the allowable TMDL wasteload among individual dischargers, the fairest and most straightforward way to do this is based on design flows."
- Comment 82, from CRC: "CRC requests that EPA set an enforceable permit limit that is consistent with anti-backsliding provisions and is based on the design flow of the plant."

EPA presented the new approach to the public at two public meetings in June of 2019 and issued three permits with total nitrogen effluent limits in September 2019. In response to comments received regarding the need for a fair and comprehensive approach based on design flow and consistent with the new approach for facilities with design flow greater than 10 MGD, the total nitrogen effluent limit for SWSC has been revised in the Final Permit to 2,794 lb/day and the incremental CSO-related allowable increases allotted in the 2018 Draft Permit have been removed.

At the same time, EPA disagrees that it would be reasonable to allocate a loading to SWSC based on 8 mg/L at design flow (resulting in increasing SWSC's allocated load from 2,794 lb/day to 5,429 lb/day). By itself, SWSC currently contributes 16% of the average out-of-basin load for the whole LIS watershed and 19% of the average out-of-basin load for the Connecticut River. With a design flow of 67 MGD, SWSC is the largest POTW discharger on the entire Connecticut River (the next largest is Hartford MDC at 60 MGD), and nearly four times the size of the next largest POTW among out-of-basin dischargers (the next largest is Holyoke at 17.5 MGD). At its current average flow of approximately 36 MGD, the load allocation in the permit requires SWSC to meet a concentration of approximately 9 mg/L on an annual average basis, which the facility is already achieving. It is reasonable to expect that if influent flow and nitrogen loadings increase, driven by increased population or industrial development, SWSC will work to achieve lower nitrogen concentrations in future permit cycles. This is a similar or even lower expectation to those at similar and smaller POTWs in Massachusetts, Connecticut and Rhode Island which contribute to nitrogen impairments in downstream coastal waters.

III. Statutory, Regulation and Environmental Context for EPA's Chosen Out-of-Basin Permitting Approach

Below, EPA explains the applicable statutory and regulatory structure, as well as the rationale for adopting this particular approach in lieu of others advanced on the record.

National Pollutant Discharge Elimination System Permits Generally

NPDES permits use two statutory mechanisms to protect water quality: (1) water quality standards, and (2) effluent limitations. *See generally* CWA §§ 301, 303, 304(b); 40 CFR pts. 122, 125, 131. Water quality standards are promulgated by states and approved by EPA. *See* CWA § 303(c)(2)(A); 40 CFR §§ 131.10-.12. The CWA and its implementing regulations require permitting authorities to ensure that any permit issued complies with the CWA and the water quality standards of all states affected by the discharge, which in this case are comprised of Massachusetts, Connecticut and New York. *See* CWA §§ 301(b)(1)(C), 401(a)(1)-(2); 40 CFR §§ 122.4(d), .44(d)(1). The State of Connecticut comments on the permit and requested that it include an effluent limitation for nitrogen.

Effluent limitations serve as the primary mechanism in NPDES permits for ensuring compliance with a state's water quality standards by imposing limits on the types and amounts of particular pollutants that a permitted entity may lawfully discharge. *See* CWA §§ 301(b)(1)(C), 401(a)(1)-(2). Effluent limitations for pollutants are based on the control technology available or are based on achieving the water quality standards for the receiving water. CWA § 301(b)(1)(a)-(c). The nutrient limits here are water quality-based effluent limitation, commonly referred to as "WQBELs," and are intended to comply with Connecticut's applicable narrative nutrient water quality standard and its antidegradation policy.

Impaired Waters and Total Maximum Daily Load

The CWA establishes a process by which states identify and manage waters where pollution control technologies alone are not stringent enough to achieve applicable water quality standards. CWA § 303(d). These identified waters, where the applicable water quality standards have not yet been attained, are commonly referred to as "impaired" waters or "nonattainment" waters and are prioritized by the states on a list that is commonly referred to as a "303(d) list." *Id.* Once a water is identified on a 303(d) list, the state develops a management plan for bringing these waters into compliance with water quality standards. CWA § 303(d)(1)(C)-(D). This process includes setting priorities for establishing TMDLs for individual pollutants in the impaired waters. *Id.*

A TMDL defines the amount of a pollutant that a waterbody can assimilate without exceeding the state's water quality standard for that waterbody. CWA § 303(d)(1)(C). TMDLs are set at a level that incorporates seasonal variations of the waterbody and a margin of safety that takes into account gaps in knowledge. *Id.* The TMDL then allocates a portion of the receiving water's pollutant loading capacity among facilities discharging to the impaired waterbody. 40 CFR §§ 130.2(h), 130.7. These wasteload allocations ("WLAs") for point sources, which are based on the underlying water quality standards, serve as a basis for water quality-based effluent limitations in permits. In addition to wasteload allocations for point sources, TMDLs include load allocations ("LAs") for background

and nonpoint sources, a margin of safety, and possibly a reserve allocation (for example, for future growth). CWA § 303(d)(1)(C); *see also* 40 CFR § 130.7; Office of Water, U.S. EPA, Doc. No. EPA-833-K-10-001, *NPDES Permit Writers' Manual* §§ 6.2.1.2, 6.4.1.1, at 6-14, -31 (Sept. 2010) ("*2010 Permit Writers' Manual*").

Although EPA initially approached the development of TMDLs one water segment at a time, EPA has long supported and encouraged states to develop TMDLs on a watershed-wide basis to more comprehensively assess and allocate pollutant loads across hydrologically-linked water segments at the same time. *See* Office of Wetlands, Oceans & Watersheds, U.S. EPA, *Handbook for Developing Watershed TMDLs* 1, 6-8 (draft Dec. 15, 2008) ("*Watershed TMDL Handbook*"); *see also* CWA § 303(d)(1); 40 CFR §§ 130.7, 131.3(h). Watershed TMDLs follow the same general process as a "single-segment TMDL," but the watershed TMDL involves larger-scale considerations and "often provides greater flexibility in developing source allocations." *Watershed TMDL Handbook* at 69. This approach is reflected in the LIS TMDL.

Antidegradation

The Clean Water Act specifically protects "existing" and "designated" uses of navigable waters. *PUD No. 1 of Jefferson Cty. v. Washington Dep't of Ecology,* 511 U.S. 700, 704–05, 114 S.Ct. 1900, 128 L.Ed.2d 716 (1994) (citing CWA § 303(c)(2)(A) & (d)(4)(B); 40 C.F.R. § 131.12). Thus, a state's water quality standards must identify existing and designated uses, such as drinking, recreation, wildlife support, and shellfish cultivation, and must establish "'water quality criteria for such waters based upon such uses.'" *Id.* at 704, 114 S.Ct. 1900 (quoting CWA § 303(c)(2)(A)). Further, pursuant to the Clean Water Act's "antidegradation policy," a state's water quality standards must "be sufficient to maintain existing beneficial uses of navigable waters, preventing their further degradation." *Id.* at 705, 114 S.Ct. 1900 (citing CWA § 303(d)(4)(B)). The mandate's broad reach is reflected in 40 C.F.R. § 131.12(a)(2), which provides that states "shall assure water quality adequate to protect existing uses fully." Thus, no activity that would "'partially or completely eliminate any existing use'" is permitted, even if it would leave the majority of a given body of water undisturbed. *PUD No. 1,* 511 U.S. at 718–19, 114 S.Ct. 1900 (quoting EPA, Questions and Answers on Antidegradation at 3 (Aug.1985)). *Cf.* Water Quality Standards Regulation, 47 Fed. Reg. 49234 (Oct. 29, 1982); Water Quality Standards Regulation, 48 Fed. Reg. 51400 (Nov. 8, 1983). *See generally*, U.S. Environmental Protection Agency. 2017. Water Quality Standards Handbook: Chapter 4. EPA-823-B-17-001. EPA Office of Water, Office of Science and Technology, Washington, D.C.

The Relationship Between NPDES Permitting and TMDLs

This permit concerns the interrelationship between two key mechanisms prescribed by the CWA for protecting and improving water quality: (1) the facility-specific effluent limits established by NPDES permits issued pursuant to section 402, and (2) the TMDL WLAs, and the assumptions underlying them, developed by states pursuant to section 303(d) to limit and allocate pollution loads among facilities discharging to impaired water bodies. The statute does not specify how NPDES permits should incorporate or reflect WLAs. EPA's implementing regulations, however, require permitting authorities to ensure that permit effluent limits are "*consistent with the assumptions and*

requirements of any available [WLA] for the discharge prepared by the State and approved by EPA." 40 CFR § 122.44(d)(1)(vii)(B) (emphasis added).

As detailed below, EPA is obligated to regulate discharges that have the reasonable potential to cause or contribute to water quality standards violations through the imposition of WQBELs in NPDES permits, even where a TMDL has not yet been issued or updated. In so regulating, EPA may also impose limitations that are at once consistent as well as more stringent than the *assumptions* of a wasteload allocation in a TMDL based on new information. Finally, a permitting authority may derive a limit based on both a TMDL and the relevant water quality standard.

It has long been settled in the EAB and the First Circuit that EPA has the discretion to regulate discharge through the imposition of a WQBEL where a TMDL has not yet been issued or revised. As the Board explained in *In re Upper Blackstone Water Pollution Abatement Dist.*, 14 E.A.D. 577, 604-06 (EAB 2010):

> Regulations implementing the NPDES permitting program specifically contemplate that permit issuers will establish numeric permit limits when there is no TMDL or wasteload allocation. Subsection (vii) requires the permitting authority to "ensure" that effluent limits are consistent with "any *available* wasteload allocation." 40 CFR § 122.44(d)(1)(vii) (emphasis added). By using the phrase "any available," the regulations expressly recognize that a TMDL or wasteload allocation may not be available. This reading of the regulation is compelled by the Agency's interpretation set forth in the preamble to 40 CFR § 122.44(d)(1), which expressly outlines the relationship between subsections (vi) governing the setting of limits based on narrative criteria and (vii), which requires consistency with "any available" waste load allocation or TMDL:
>
> > The final point about paragraph (vi) is that, *in the majority of cases where paragraph (vi) applies, waste load allocations and total maximum daily loads will not be available* for the pollutant of concern. Nonetheless, any effluent limit derived under paragraph (vi) must satisfy the requirements of paragraph (vii). Paragraph (vii) requires that all water quality-based effluent limitations comply with "appropriate water quality standards," and be consistent with "available" waste load allocations. *Thus for the purposes of complying with paragraph (vii), where a wasteload allocation is unavailable, effluent limits derived under paragraph (vi) must comply with narrative water quality criteria and other applicable water quality standards.*
>
> 54 Fed. Reg. 23,868, 23,878 (June 2, 1989) (emphases added). This formal Agency interpretation set forth in the preamble at the time the regulation was promulgated expresses the Agency's expectation that, while wasteload allocations may not uniformly be available, effluent limits must be established without waiting for a TMDL or wasteload allocation.

The Board's decision was upheld in *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 26 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013), where the court similarly rejected the notion that permit issuers must wait until a TMDL or wasteload allocation is developed before setting an effluent limit in a permit and reiterated that scientific uncertainty is not a basis for delay in issuing an NPDES permit. *Accord In re City of Ruidoso Downs,* 17 E.A.D. 697, 733 (EAB 2019),

appeal docketed sub nom. Rio Hondo Land & Cattle Co. v. EPA, No. 19-9531 (10th Cir. May 23, 2019); *In re City of Taunton,* 17 E.A.D. 105, 144 (EAB 2016) *aff'd*, 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 120 (Feb. 19, 2019).

Permit limits need not be identical to the wasteload allocation established by the TMDL. *See In re City of Homedale Wastewater Treatment Plant*, 16 E.A.D. 421, 432 (EAB 2014) (upholding as "consistent with the assumptions and requirements of the…TMDL" permitting authority's decision to include monthly and weekly average effluent limits for phosphorus, rather than daily maximum contained in applicable TMDL). Significantly, WLAs are not permit limits *per se*; rather they still require translation into permit limits (*i.e.*, WQBELs). EPA has the discretion to deviate from a wasteload allocation in a TMDL, if such a departure is warranted by the record and in accordance with paragraph 122.44(d)(1)(vii)(A). While section 122.44(d)(1)(vii) prescribes minimum requirements for developing WQBELs, it does not prescribe detailed procedures for their development. Rather, permit issuers have flexibility to determine appropriate effluent limits for permits within the parameters of the statutory and regulatory scheme. *See* 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (clarifying in preamble to 40 CFR § 122.44 that, in not imposing detailed procedures for establishing permit limits, EPA intended to "give[] the permitting authority the flexibility to determine the appropriate procedures for developing water quality-based effluent limits"). Accordingly, the Board has rejected the argument that the EPA permit writer, in calculating permit limits for a wastewater treatment plant, erred by using a facility's current, known design flow in developing effluent limits, rather than higher flow rate referenced in the TMDL. *In re City of Moscow*, 10 E.A.D. 135, 146-48 (EAB 2001). *See also City of Taunton v. EPA*, 895 F.3d 120, 139-40 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (2019) (upholding Agency's decision to establish necessary permit limits to comply with water quality standards based on available information at the time of permit reissuance (citing *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 26 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2832 (2013).

Additionally, neither the CWA nor its implementing regulations provide a basis for concluding that a permitting authority cannot derive a limit based on *both* a TMDL *and* the relevant water quality standard if there is a record justification to warrant that approach. *In re City of Ruidoso Downs,* 17 E.A.D. 697, 733 (EAB 2019), *appeal docketed sub nom. Rio Hondo Land & Cattle Co. v. EPA*, No. 19-9531 (10th Cir. May 23, 2019); *see also* NPDES Surface Water Toxics Control Program, 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (incorporating language into the regulations that requires water quality-based effluent limits to be derived from water quality standards because that "is the only reliable method for developing water quality-based effluent limits that protect aquatic life and human health"). To be sure, Sections 301 and 303 have different purposes; each represents a distinct aspect of the CWA statutory scheme that is implemented under a separate set of regulatory authorities. *Compare* 40 CFR § 122.44 (containing NPDES permitting regulations) *with* 40 CFR § 130.7 (containing CWA section 303(d) and TMDL regulations). *See In re City of Taunton Dep't of Pub. Works*, 17 E.A.D. 105, 142-144 (EAB 2016), aff'd, 895 F.3d 120, 136 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (Feb. 19, 2019) (explaining distinction between CWA § 303(d) listing process and the NPDES permitting process, and observing that, "The 303(d) listing process represents a statutory *response* to water pollution" while "NPDES permitting under CWA section 301 applies to individual discharges and represents a more *preventative* component of the regulatory scheme in that, under section 301, no discharge is allowed except in accordance with a permit.") (emphasis in original).

But critically, TMDLs, wasteload allocations developed from TMDLs, and water quality-based effluent limits in permits do share a common foundation in that all are required to take into account and assure that relevant water quality standards will be met. This conclusion is reflected in the applicable NPDES regulation at 40 CFR § 122.44(d)(1)(vii)(A)-(B):

> (vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:
>
> > (A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; *and* [emphasis added]
> >
> > (B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

These two provisions are not to be read in isolation; rather, as indicated by the word "and," these requirements must be read in conjunction with one another. "TMDLs are by definition maximum limits; permit-specific limits…which are more conservative than the TMDL maxima, are not inconsistent with those maxima, or the WLA upon which they are based." *In re City of Moscow*, 10 E.A.D. 135, 148 (EAB 2001). This outcome is in in keeping with other provisions of the NPDES regulations implementing the NPDES program and CWA § 301, including 40 CFR § 122.4(a) ("No permit may be issued…[w]hen the conditions of the permit do not provide for compliance with the applicable requirements of the CWA, or promulgations promulgated under CWA'); § 122.44(d)(4) (requiring NPDES permits to include "any requirements in addition to or more stringent than promulgated effluent limitation guidelines or standards under sections 301…of the CWA necessary to…[c]onform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State") and 122.44(d)(5) (requiring NPDES to "Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State Law or regulations in accordance with section 301(b)(1)(C) of the CWA"). *See also* NPDES Surface Water Toxics Control Program, 54 Fed. Reg. 23,868, 23,879 (June 2, 1989) (incorporating language into the regulations that requires water quality-based effluent limits to be derived from water quality standards because that "is the only reliable method for developing water quality-based effluent limits that protect aquatic life and human health"). *See City of Taunton v. EPA*, 895 F.3d 120, 139-40 (1st Cir. 2018) (upholding EPA's decision to establish necessary permit limits to comply with water quality standards based on available information (citing *Upper Blackstone Water Pollution Abatement Dist. v. EPA*, 690 F.3d 9, 26 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013)).

The Nutrient Limits Are Consistent with the Assumptions and Requirements of the LIS TMDL

It is undisputed that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including low dissolved oxygen. In December 2000, the Connecticut Department of Environmental Protection ("CT DEP"), now known as the Connecticut Department of Energy and Environmental Protection ("CT DEEP"), and New York State Department of

Environmental Conservation ("NYSDEC"), completed a TMDL for addressing nitrogen-driven eutrophication impacts in Long Island Sound. The TMDL includes a WLA for point sources and a load allocation ("LA") for non-point sources. The point source WLAs for in-basin sources (Connecticut and New York State) are allocated facility-by facility and were developed to achieve an aggregate 60% reduction in point source loading from those two states. The point source WLA in the TMDL *assumes* an aggregate 25% reduction from the baseline total nitrogen loading estimated in the TMDL for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds), but does not allocate loads by facility. *See* TMDL--A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound (CT DEP 2000, page 33).

Although the facility's discharge has not been assigned a specific WLA, it is still subject to the assumptions incorporated into the LIS TMDL under Section 303 of the Act, and implementing regulations, as well as compliance with applicable water quality standards under Section 301 and 401(a)(2) of the Act. The nitrogen load limit in the permit is necessary to meet federal regulations at 40 CFR § 122.44(d)(1)(vii)(A), which as explained require that effluent limits be consistent the assumptions and requirements of any available approved wasteload allocation, and 40 CFR § 122.44(d)(1)(vii)(B), which require compliance with state water quality standards. In its 2001 LIS TMDL approval letter and attached review memo, EPA acknowledged the TMDL assumption that a 25% reduction of the out-of-basin point source load was a reasonable, necessary condition for approving the LIS TMDL. It committed to use its NPDES authorities to implement this reduction. EPA discussed the out-of-basin nitrogen loads as follows:

> The TMDL identifies wasteload allocations for out-of-basin nitrogen loads (i.e., tributary loads) that would be achieved through the implementation of Phase IV reduction targets. Specifically, the Phase IV targets include a 25 percent reduction in point source nitrogen loads, based on the clear role that these sources have on water quality in Long Island Sound.
>
> As discussed above, EPA is not approving the out-of-basin nitrogen reductions as formal allocations but rather as reasonable assumptions on which the in-basin reductions are based. In this case, the states' estimated 25 percent reduction in nitrogen loads from point sources (primarily POTWs) is reasonable because this level of reduction has been demonstrated as feasible through Biological Nutrient Removal (BNR) retrofits of existing facilities. These low-cost retrofits were implemented at numerous Connecticut POTWs during Phase II of the Long Island Sound nitrogen reduction program. The reductions achieved by these retrofits support the predicted 25 percent reduction by out-of-basin sources. EPA believes that these estimates of future reductions make sense. Moreover, as discussed in the Reasonable Assurance section below, EPA is prepared to use its authorities when issuing NPDES permits to dischargers in Massachusetts and New Hampshire, and in overseeing permit issuance in Vermont, to translate the nitrogen reductions into facility specific requirements in order to achieve the overall 25 percent reduction level. EPA has already begun to include nitrogen monitoring requirements in Massachusetts permits.

Review Memo Section 5.B (page 13, emphasis added).[8] Therefore, EPA's approval of the 2000 TMDL included a commitment on EPA's part to use its NPDES permitting and oversight authorities to reasonably assure that the assumption regarding out-of-basin load reductions identified in the TMDL would occur, consistent with the regulatory requirements. In this and other documents, EPA refers to that commitment as the out-of-basin WLA, consistent with the language in the TMDL.

The annual loading effluent limit is consistent with the assumptions used to derive the WLA for both in-basin and out-of-basin dischargers in the LIS TMDL, because of permitting actions taken since the LIS TMDL was approved in 2001. Although there is uncertainty regarding the actual baseline out-of-basin load that existed in 2000, it is reasonable to assume that the combination of optimization requirements (already included in most out-of-basin permits issued over the last 10 years) and effluent limits (included in out-of-basin permits issued since 2019 for larger POTWs) assures that the aggregate out-of-basin non-stormwater point source load is less than the out-of-basin load in 2000. As TN increases may be driven by population increases (the estimated wastewater TN loading is 10 pounds per person per year[9]), TN effluent limits are necessary to assure that the aggregate out-of-basin loading is not exceeded due to population growth. EPA anticipates that forthcoming out-of-basin permits in Massachusetts will include average annual loading nitrogen limits for facilities with design flow greater than 1 MGD, along with TN optimization requirements in all permits for dischargers greater than 100,000 gpd, and monitoring for all dischargers, in order to assure that TN loadings will be not increase over time to levels that exceed the WLA assumption in the TMDL.

The Nutrient Limits are Imposed Based on a Finding of Reasonable Potential to Cause or Contribute to an Exceedance of Water Quality Standards; Constitute a Translation of the States' Narrative Nutrient Water Quality Standards; and Are Necessary to Ensure Compliance with Water Quality Standards, Including Antidegradation

Narrative standards have the same force and effect as other state water quality standards; unlike numeric criteria, however, narrative water quality standards are necessarily subject to translation prior to their application. *See American Paper Inst. v. United States EPA*, 996 F.2d 346, 351 (D.C. Cir. 1993). As explained by the D.C. Circuit:

> As long as narrative criteria are permissible…and must be enforced through limitations in particular permits, a permit writer will inevitably have some discretion in applying the criteria to a particular case. The general language of narrative criteria can only take the permit writer so far in her task. Of course, that does not mean that the language of a narrative criterion does not cabin the permit writer's authority at all; rather, it is an acknowledgement that the writer will have to engage in some kind of interpretation to determine what chemical-specific numeric criteria—and thus what effluent limitations—are most consistent with the state's intent as evinced in its generic standard.

[8] TMDL Approval Letter from the Long Island Sound Office of the U.S. EPA to the states of New York and Connecticut, with enclosure entitled: EPA New England and EPA Region 2 TMDL Review for TMDL in Long Island Sound, Connecticut and New York, Final Status, Impairment/Pollutant is Hypoxia (low dissolved oxygen) due to nitrogen, dated April 3, 2001.

[9] Unit loading from residences has been estimated at an average of 0.027 lb/capita/d or 10 lb/capita/year. See EPA Manual – Nitrogen Control, September 1993, EPA/625/R-93/010, Page 10.

See American Paper Inst., 996 F.2d at 351 (citations omitted). This process of translating a narrative criterion is governed under EPA regulations by 40 CFR § 122.44(d)(1)(vi), which implements Sections 301 and 402 of the Act. Subsection (A) of that provision mandates at the outset a calculation of a protective ambient threshold concentration for the pollutant:

> Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:
>
> > (A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use.

See also Upper Blackstone Water Pollution Abatement Dist. v. United States EPA, 690 F.3d at 23. Because both Connecticut and New York employ narrative water quality criteria for the relevant pollutants, EPA relied in the first instance on the TMDL (a sophisticated and resource-intensive modeling and technical effort representing the input of five states and EPA) as a translation of these criteria under 40 CFR § 122.44(d)(1)(vi), and supplemented that reliance with an analysis of subsequent water quality monitoring data and other information related to LIS nutrient-driven impairments.[10]

As the Board and First Circuit have held, EPA has a significant amount of flexibility within the bounds of the CWA in determining whether a particular discharge has a reasonable potential to cause an excursion above a water quality criterion. *In re City of Taunton Dep't of Pub. Works*, 17 E.A.D. 105, 144 (EAB 2016), aff'd, 895 F.3d 120, 136 (1st Cir. 2018), cert. denied, 139 S. Ct. 1240 (Feb. 19, 2019)*; Upper Blackstone Water Pollution Abatement Dist. v. U.S. Envtl. Prot. Agency*, 14 E.A.D. 577, aff'd, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382(2013); *In re Town of Newmarket*, 16 E.A.D. 18 (EAB 2013); *In re City of Attleboro Wastewater Treatment Plant*, 14 E.A.D. 398 (EAB 2009). The requirement to impose a permit limit is triggered by a finding that the facility may discharge a pollutant at a level that "contributes" to or has the "reasonable potential" to cause a water quality standard violation. *Upper Blackstone*, 14 E.A.D. at 599 & n.29; *see also* 40 CFR § 122.44(d). To establish a "reasonable potential" the permitting authority must show "some degree of certainty greater than a mere possibility, but it leaves to the permit writer's scientific and technical judgment how much certainty is necessary". *Upper Blackstone*, 14 E.A.D. at 599 n.29. Additionally, the reasonable potential analysis must be based on "worst-case" effluent conditions. *Id*. at 599. Thus, as explained previously, this analysis requires "a precautionary approach when determining whether the permit must contain a water quality-based effluent limit for a particular pollutant," rather than "certainty of an existing causal link between a specific discharge

[10] NY and CT have narrative nutrient criteria, as well as numeric DO criteria, along with antidegradation requirements protecting existing uses. LIS was listed due to low DO. The use impairment includes: decrease in bathing area quality, an increase in unhealthy areas for aquatic marine life, an increase in mortality of sensitive organisms, poor water clarity for scuba divers, a reduction in commercial and sport fisheries values, a reduction in wildlife habitat value, degradation of seagrass beds, impacts on tourism and real estate, and poorer aesthetics. See TMDL at p. 9.

and a particular violation of water quality standards" *Id*. Consistent with this overall approach, EPA analyzes available record materials from a reasonably conservative standpoint when evaluating whether nutrients in a discharge have the reasonable potential to cause or to contribute to a water quality standards violation, and when establishing necessary WQBELs. This protective approach is appropriate because, once begun, the cycle of eutrophication can be difficult to reverse due to the tendency of nutrients to be retained in sediment and from there reintroduced into the water body. In addition, in flowing systems, nutrients may be rapidly transported downstream and the effects of nutrient inputs may be uncoupled from the nutrient source, which complicates source control. Thus, a key function of a nutrient limit is to protect downstream receiving waters regardless of their proximity in linear distance.

Although nitrogen driven impairments in LIS have been reduced, they have not been eliminated, and remain significant. In EPA's technical and scientific judgment, the current quantity of nitrogen in LIS exceeds the narrative and numeric nutrient-related criteria applicable to LIS, and existing uses are not being protected, based on analyses of water quality data and information in the administrative record.[11] The out-of-basin loads, whose magnitude is described above, necessarily contribute, or have the reasonable potential to contribute, to these violations. Designated uses for the marine waters of Long Island Sound (Class SA) include "habitat for marine fish, other aquatic life and wildlife." *See* RCSA § 22a-426-(f) and (g). Connecticut's WQS protect those uses from excessive nutrient pollution by means of the following narrative criteria: "The loading of nutrients, principally phosphorus and nitrogen, to any surface water body shall not exceed that which supports maintenance or attainment of designated uses." Although there have been significant reductions in the size of the hypoxic zone in LIS due largely to in-basin point source TN reductions, LIS continues to be impaired.[12] As noted, it is undisputed that significant amounts of nitrogen from out-of-basin facilities are discharged to the LIS watershed (as much as 6 million pounds per year, based on the sum of the maximum annual discharge from each out-of-basin discharger from 2013 to 2017).

Since the LIS TMDL was approved by EPA in 2001, the study of water quality conditions in LIS and the nitrogen loadings that contribute to hypoxia and other impairments there has continued. Annual monitoring of hypoxia and dissolved oxygen conditions in Long Island continues, as most recently documented in the *2019 Long Island Sound Hypoxia Season Review*[13] which notes that while the area of hypoxia has been reduced, water quality standards have not yet been met.[14]

In 2015, the Long Island Sound Study (LISS)[15] updated its Long Island Sound Comprehensive Conservation and Management Plan (CCMP)[16] which sets watershed targets, implementation actions to meet those targets, and monitoring strategies. One of the objectives of the CCMP is to improve

[11] *See* e.g. Long Island Sound Report Card 2018, at https://www.ctenvironment.org/wp content/uploads/2018/09/ReportCard2018-BestView.pdf
[12] Long Island Sound Study, *A Healthier Long Island Sound: Nitrogen Pollution*, 2019, page 2.
[13] CTDEEP, Interstate Environmental Commission, EPA, *2019 Long Island Sound Hypoxia Season Review*, available at: http://www.iec-nynjct.org/sites/default/files/2020-07/FINAL_LISound-Hypoxia-2019-Combined-Report_april2020.pdf
[14] *2019 Long Island Sound Hypoxia Season Review* (page 13)
[15] The Long Island Sound Study (LISS) is a bi-state partnership, formed by EPA, New York and Connecticut in 1985, consisting of federal and state agencies, user groups, concerned organizations, and individuals dedicated to restoring and protecting the Long Island Sound. For more information see https://longislandsoundstudy.net/
[16] LISS, Long Island Sound Comprehensive Conservation and Management Plan 2015 Returning the Urban Sea to Abundance (CCMP), 2015.

water quality by further reducing nitrogen pollution from sources that are more distant from the Sound, [17] such as wastewater treatment plants in Massachusetts.

A study published in 2008 used both measurements and mass-balance modeling to evaluate the potential for nitrogen attenuation in the main stem of the Connecticut River in April and August 2005. One of the reaches studied was a 55 km stretch of the Connecticut River in Massachusetts. The study found no nitrogen loss in that reach either in April or August, most likely due to the depth and higher velocities in the main stem of the river compared to the shallower, slower tributaries where previous models and studies had demonstrated varying degrees of nitrogen attenuation. [18]

In addition, subsequent studies refined the understanding of out-of-basin baseline nitrogen loading which suggest lower out-of-basin baseline point source loading to the Connecticut River than the 21,672 lb/day assumed in the 2000 TMDL. In 2013, the United States Geological Survey (USGS) published an estimation of the total nitrogen load to Long Island Sound from Connecticut and contributing areas to the north for October 1998 to September 2009. [19] Available total nitrogen and continuous flow data from 37 water-quality monitoring stations in the LIS watershed, for some or all of these years, were used to compute total annual nitrogen yields and loads. In order to extract the non-point source loadings from the total nitrogen measured, the authors relied on point source estimates from the SPARROW model of nutrient delivery to waters in the Northeastern and Mid-Atlantic states in 2002, including the Connecticut River, that was published by Moore and others in 2011[20]. The SPARROW model estimated that 1,776.7 metric tons per year (MT/yr) (or annual average 10,820 lb/day) of total nitrogen was discharged to the Connecticut River from Massachusetts, New Hampshire and Vermont in 2002[21]. These estimates were based on an approach by Maupin and Ivahnenko, published the same year, which used discharge monitoring data available from EPA's Permit Compliance System (PCS) database for 2002. [22,23] Where no data was available, an estimated typical pollutant concentration (TPC) and flow was used to approximate nitrogen loading from point sources according to their industrial category. [24]

Long Island Sound continues to be listed as impaired on Connecticut's latest EPA-approved list of impaired waters and is experiencing ongoing effects of eutrophication, including low DO, although the system has experienced improvements since the TMDL was approved. EPA acknowledges the complexity of the system and the receiving water response, and EPA recognizes that work that is

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[17] CCMP, page 19.

[18] Smith, Thor E., et al, *Nitrogen Attenuation in the Connecticut River, Northeastern USA; A Comparison of Mass Balance and N_2 Production Modeling Approaches, Biogeochemistry*, Mar., 2008, Vol. 87, No. 3 (Mar., 2008), pp. 311-323

[19] Mullaney, J.R., and Schwarz, G.E., 2013, Estimated Nitrogen Loads from Selected Tributaries in Connecticut Draining to Long Island Sound, 1999–2009: U.S. Geological Survey Scientific Investigations Report 2013–5171, 65

[20] Moore, Richard B., Craig M. Johnston, Richard A. Smith, and Bryan Milstead, 2011. Source and Delivery of Nutrients to Receiving Waters in the Northeastern and Mid-Atlantic Regions of the United States. Journal of the American Water Resources Association (JAWRA) 47(5):965-990. DOI: 10.1111⁄j.1752-1688.2011.00582.x

[21] Extrapolated from Moore, et.al 2011, Table 3 on page 977 which estimated that for 2002 an 33.2 % of the total 4,553 MT/yr Massachusetts nitrogen load was from point sources, 2.5% of the total 3,795 MT/yr Vermont nitrogen load was from point sources and 6.1 percent of the total 2,790 MT/yr New Hampshire nitrogen load was from point sources.

[22] Moore (2011), page 968.

[23]Maupin, Molly A. and Tamara Ivahnenko, 2011. Nutrient Loadings to Streams of the Continental United States From Municipal and Industrial Effluent. *Journal of the American Water Resources Association* (JAWRA) 47(5):950-964.

[24] Maupin (2011), page 954.

currently ongoing with regards to additional water quality modeling, point source load reductions and WWTP upgrades in other states, particularly New York and Connecticut. In order to ensure that water quality standards are met, EPA has determined that at most TN should be no greater than that resulting from nitrogen currently being discharged from all sources. Holding the load from out-of-basin sources, along with reductions resulting from the nitrogen optimization special condition, combined with other ongoing work to further reduce in-basin loadings, are in EPA's judgment together sufficient to assure that the discharge is in compliance with standards. Accordingly, a more stringent limit is not warranted at this time. EPA will over the course of the permit term evaluate monitoring results from LIS and, if necessary, it will adjust requirements upon permit renewal.

The permit conditions at issue here were fashioned to ensure full implementation of CWA §§ 301(b)(1)(C), 401(a)(2) and 402, as well as consistency with the assumptions of the LIS WLA. A permitting authority has considerable discretion to determine appropriate effluent limits for a permit. "Congress has vested in the Administrator [of EPA] broad discretion to establish conditions for NPDES permits" in order to achieve these statutory mandates of establishing effluent limitations, including narrative permit conditions, to attain and maintain water quality standards. *Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992). Section 402 provides that a permit may be issued upon condition "that such discharge will meet either all applicable requirements under sections 301, 302, 306, 307, 308 and 403 of this Act, or prior to taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act." 33 U.S.C. §1342(a). "This provision gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges." *Id.* The D.C. Circuit has described the CWA's balance when confronted with a difficult situation and the obligation to eliminate water quality impairments: "EPA may issue permits with conditions designed to reduce the level of effluent discharges to acceptable levels. This may well mean opting for a gross reduction in pollutant discharge rather than the fine-tuning suggested by numerical limitations. *But this ambitious statute is not hospitable to the concept that the appropriate response to a difficult pollution problem is not to try at all.*" *Natural Resources Defense Council, Inc. v. Costle,* 568 F.2d 1369, 1380 (D.C. Cir. 1977) (emphasis added) (finding unlawful a rule that would have exempted certain discharges from permitting requirements based on the difficulty in setting limits). EPA's decision to cap the out-of-basin TN loads in the aggregate was consistent with this gross approach to pollutant control, which is appropriate here given the need to ensure reasonable further progress toward restoration of uses in LIS based on reductions that have already occurred and whose impact is still being realized. It is also appropriate in light of the fact that more sophisticated models to precisely define the exact level of pollutant controls need are not available. EPA has explained that when permitting for nutrients, time is of the essence, because of the tendency of nutrients to recycle in the ecosystem and exacerbate existing impairments, as outlined in EPA's Nutrient Technical Guidance Manual. Rather than wait for the development of that information, a daunting task because of the size and complexity of LIS and vast areal extent of loading, EPA determined that it would be reasonable to move forward. This decision is also reasonable because Springfield and many other contributing sources' permits are long expired.

Finally, antidegradation provisions of State water quality standards require that existing uses be fully maintained and protected, which is an additional basis for the limit. Authorizing a significantly increased nitrogen loading into an impaired water body that is suffering the ongoing effects of cultural eutrophication would be inconsistent with applicable antidegradation requirements. One of

the principal objectives of the CWA, articulated in CWA § 101(a) is to "maintain the chemical, physical and biological integrity of the Nation's waters." The antidegradation requirements in federal regulations at 40 CFR § 131.12 provide a framework for maintaining and protecting water quality that has already been achieved and require states to adopt provisions in their water quality standards that prevent further degradation of both degraded waters and waters which are meeting or exceeding the water quality necessary to protect designated and existing uses.

Since the receiving water at issue here is in Connecticut, EPA looks to Connecticut Water Quality Standards. These standards provide that, "It is the state's goal to restore or maintain the chemical, physical and biological integrity of surface waters. Where attainable, the level of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water shall be achieved." R.C.S.A. § 22a-426-4(a)(1). "Surface waters and sediments shall be free from chemical constituents in concentrations or combinations which will or can reasonably be expected to result in acute or chronic toxicity to aquatic organisms or otherwise impair the biological integrity of aquatic or marine ecosystems…" *Id*. at 22a-426-4(a)(5). "The Commissioner shall require Best Management Practices, including the imposition of discharge limitations or other reasonable controls on a case-by-case basis as necessary for point and nonpoint sources of phosphorus and nitrogen, including sources of atmospheric deposition, which have the potential to contribute to the impairment of any surface water, to ensure maintenance and attainment of existing and designated uses, restore impaired waters, and prevent excessive anthropogenic inputs of nutrients or impairment of downstream waters." *Id*. at 22a-426-4(a)(11).

The classification for the receiving waters at issue and affected by the Springfield discharge in this case are Class SA and Class SB. The designated uses for Class SA waters are: (1) habitat for marine fish, other aquatic life and wildlife; (2) shellfish harvesting for direct human consumption; (3) recreation; (4) industrial water supply; and (5) navigation. R.C.S.A. § 22a-426-4(f). The designated uses for Class SB waters are: (1) habitat for marine fish, other aquatic life and wildlife; (2) commercial shellfish harvesting; (3) recreation; (4) industrial water supply; and (5) navigation. *Id*. § 22a-426-4(j). The criteria applicable to these waters are listed at § 22a-426-9(a)(1). These class specific criteria set out requirements for Dissolved Oxygen, nutrients and biological condition.

Under Connecticut's antidegradation standards, "Existing and designated uses such as propagation of fish, shellfish and wildlife, recreation, public water supply, and agriculture, industrial use and navigation, and the water quality necessary for their protection are to be maintained and protected." R.C.S.A. § 22a-426-8(a)(1). The standards further provide, "The procedures for review outlined in this policy apply to any discharge or activity that is affecting or may affect water quality in Connecticut, including but not limited to any existing, new or increased activity or discharge requiring a permit, water quality certificate or authorization pursuant to chapters 439, 440, 445 or 446i to 446k, inclusive of the Connecticut General Statutes." Tier 1 Antidegradation Review is applicable to all discharges, irrespective of whether it is new or increased within the meaning of § 22a-426-8(b)(2). Under that tier of review,

> "The Commissioner shall determine whether the discharge or activity is consistent with the maintenance, restoration, and protection of existing and designated uses assigned to the receiving water body by considering all relevant available data and the best professional judgment of department staff. All narrative and numeric water quality standards, criteria and

associated policies contained in the Connecticut Water Quality Standards shall form the basis for such evaluation considering the discharge or activity both independently and in the context of other discharges and activities in the affected water body and considering any impairment listed pursuant to 33 USC 1313(d) or any Total Maximum Daily Load (TMDL) established for the water body."

As the Massachusetts point source dischargers are substantially upstream of the impaired receiving waters and EPA is applying the antidegradation requirement by capping the aggregate loading of nitrogen to Long Island Sound from Massachusetts dischargers, an increased discharge of nitrogen beyond current loads into nitrogen-degraded waters experiencing the effects of cultural eutrophication (e.g., DO impairments) under the circumstances here would not be consistent with the Act. Holding the load from these facilities will maintain and protect existing uses, which are identified in more detail in the comments and responses below. This allows EPA to ensure that the nitrogen limits are applied fairly and in a technologically feasible manner while ensuring that antidegradation provisions of Connecticut's water quality standards are being met.

Pursuant to ensuring that the out-of-basin point-source load does not violate Connecticut's antidegradation standards, the new total nitrogen loading limits (for dischargers with design flows greater than 1 MGD) along with the requirement to minimize nitrogen discharge by facility optimization (for all dischargers with design flow greater than 0.1 MGD) are intended to ensure that nitrogen loads are held at current loadings. As can be seen from the summary in Table 1, 92 % of this load is from POTWs with design flow > 1 MGD. The impact of the new TN effluent limits will be to cap that load at approximately the same average loading. Table 1 summarizes the five-year average out-of-basin loads generated by Massachusetts non-stormwater point sources, based on data provided in Appendix A. While the sum of effluent limited loads for POTWS with design flow greater than 1 MGD is somewhat higher than the average loads observed in recent years, actual effluent limited loads can be expected be lower than the limits in order to avoid permit violations. EPA will continue to track out-of-basin loads as new data becomes available as well as developments in EPA's Long Island Sound Nitrogen Reduction Strategy (see the 2017 Fact Sheet, page 21) and will re-evaluate permit requirements for nitrogen for all out-of-basin dischargers in future permit actions.

Table 1 - Summary of **Massachusetts** Out-of-Basin Non-Stormwater Point Source Loads

	Sum of Average Loads 2013-2017 (lb/day)	Sum of Average Load 2014-2018 (lb/day)	Sum of Effluent Limited Loads (lb/day)
POTWs with design Flow > 1 MGD	10,023 (92%)	9,865 (92%)	10,907
POTWs with design Flow 0.1 to 1 MGD	869 (8%)	859 (8%)	
POTWs with design Flow < 0.1 MGD and Industrial Sources.	19 (0.02%)	20 (0.02%)	
TOTAL	10,911 (Range 9,767 to 11,528)	10,744 (Range 9,767 to 11,528)	

In order to assure compliance with water quality standards, and fully implement and translate the states' narrative nutrient and related criteria, out-of-basin loads in EPA's judgment should not be increased, because water quality data indicates that the assimilative capacity for nitrogen has been reached in portions of LIS and cultural eutrophication, the impacts of which include hypoxia, is ongoing. It is reasonable, in EPA's view, to issue permits to out-of-basin dischargers that hold loads constant and in so doing curtail the potential for these out-of-basin loadings to contribute to further impairment and degradation of a water that is already beyond its assimilative capacity for nitrogen. The TN effluent limits and optimization requirements are necessary to assure that the out-of-basin load does not cause or contribute to further violation of water quality criteria in the downstream LIS. Holding these loads level, in conjunction with significant nitrogen pollution reduction efforts being pursued by in-basin dischargers will, under EPA's analysis, be sufficient to make a finding that the out-of-basin permits taken as a whole contain nutrient controls sufficient to ensure that the discharges comply with water quality standards under Section 301 of the Act, based on information in the record currently before EPA. This conclusion will be tested for the term of the permit through the extensive monitoring programs in LIS and will be adjusted as necessary in future permit cycles. This review and potential tightening of the conditions in NPDES permits is a basic feature of the CWA.

IV. Principal Objections to EPA's Chosen Out-of-Basin Permitting Approach

Overall, commenters objecting to the approach adopted by EPA misapprehend the legal framework governing EPA's derivation of NPDES effluent limitations under CWA § 402, which under federal regulations must not only be consistent with the assumptions and requirements of any available WLA, but also must ensure compliance with applicable water quality standards pursuant to CWA § 301, based on information reasonably available to EPA at the time of permit reissuance.

Effluent limits may be more stringent than a TMDL WLA

Several commenters argue that compliance with the nitrogen reductions assumed by the LIS TMDL preclude the imposition of further nitrogen controls on the facility, or rely on the closely-related proposition that EPA must await the development and approval of new, facility-specific WLAs for the out-of-basin POTWs prior to imposing effluent limitations, even if there is evidence of ongoing water quality impairments in the receiving waters (a fact not disputed on the permit record). These positions, however, are unfounded, as the Environmental Appeals Board and United States Court of Appeals for the First Circuit have repeatedly and unambiguously held that EPA need *not* await development of an EPA-approved, facility-specific WLA, or collection of new water quality data or creation of new models, in order to independently develop and impose a water quality-based effluent limitation stringent enough to satisfy CWA § 301 at the time of permit reissuance. *See City of Taunton v. U.S. Envtl. Prot. Agency,* 895 F.3d 120 (1st Cir. 2018), *cert. denied*, 139 S. Ct. 1240 (2019); *Upper Blackstone Water Pollution Abatement Dist. v. U.S. Envtl. Prot. Agency*, 690 F.3d 9 (1st Cir. 2012), *cert. denied*, 133 S. Ct. 2382 (2013).

Additionally, some commenters appear to misconstrue the basis for the permit limits for the out-of-basin dischargers, improperly characterizing that foundation as the WLA established for POTWs discharging directly into Long Island Sound. By this, they imply that the permit need only comply

with the WLA, as opposed to the Act as a whole. This view is incorrect in at least two ways. First, as a factual matter, the out-of-basin dischargers were not assigned a WLA; reductions from these sources were an *assumption* of the LIS WLA. Second, EPA's permit limits were not only developed to be consistent with the LIS WLA, but also derived from water quality standards under CWA § 303, which may lead to the imposition of more stringent effluent limitations necessary to achieve those standards, as EPA is obligated to do under CWA § 301. Thus, in accordance with the Act and EPA's implementing regulations, they have been: (1) written to be "consistent" with the assumptions and requirements of the LIS WLA, which was established based on an assumption that out-of-basin sources of nitrogen would be reduced by 25%, and (2) made more stringent than that assumption in order to comply with CWA § 301, based on information available to EPA at the time of permit reissuance, specifically, evidence of ongoing nitrogen-driven impairments in LIS.

EPA need not await a TMDL update before it can incorporate new information relevant to nitrogen loading and receiving water quality in an NPDES permit, and consideration of new information does not amount to a de facto TMDL update

Some commenters argued that EPA must await development of a new TMDL prior to considering updated information when developing NPDES permits. This view improperly subordinates the NPDES program to the TMDL program. In fact, they are coordinate programs. TMDLs establish pollutant maxima under Section 303 of the Act, and do not preclude the imposition of a more stringent limit pursuant to an NPDES permit under Section 402. While NPDES permits must be consistent with the assumptions and requirements of any available WLA pursuant to EPA regulations, EPA has an independent obligation to write NPDES permits that ensure compliance with Section 301, using the best information available at the time of permit reissuance, which in this case includes an evaluation of TMDL implementation and current receiving water quality in LIS. While the TMDL represented, as a commenter notes, "the best scientific and legal approach for meeting water quality standards in the LIS" at the time, EPA may supplement its scientific and technical record for the purposes of NPDES permitting, including through refining its knowledge of TMDL inputs and assumptions, such as baseline loads, which are inherently dynamic and vary from permit cycle to cycle, as well as an evaluation of instream monitoring and data that reflect the extent to which the TMDL endpoints are being achieved. Contrary to some commenters' assertions, EPA is not attempting to modify the TMDL through issuance of a permit; EPA, rather, is implementing the TMDL by issuing a permit consistent with the assumptions and requirements of that TMDL as required by the federal regulations, and pursuant to its independent obligations under Sections 301 and 402 of the Act. *See* 40 CFR 122.44(d)(1)(vii)(A)-(B).

TMDLs are in a sense fixed in a moment in time, but that attribute of TMDLs does not suspend consideration of new information or preclude new analysis consistent with the TMDL under other regulatory programs, such as the NPDES permit program, *if the permit record calls for such an evaluation*. This stands to reason, given that a person is authorized to discharge, if at all, through an NPDES permit, not a TMDL, and the issuance of an NPDES permit that does not assure attainment of water quality standards is prohibited under the Act and regulations implementing the NPDES program. EPA is obligated under the Act to revisit NPDES permit requirements and generate updated record bases for decision at periodic intervals not to exceed five years. TMDLs, on the other hand, are planning documents and not independently enforceable. Rather, they are implemented though the regular issuance of NPDES permits, and at each NPDES permit reissuance, the permit

issuer *must* demonstrate that the discharge will not cause or contribute to a water quality standards violation. Reassessing the baseline load, which was derived from estimated point source loads from over 30 years ago, is one component of this process. This evaluation is a function of the NPDES permitting process and does not amount to an "update" of the TMDL. EPA is obligated to ensure not only that the NPDES WQBELs are consistent with the assumptions and requirements of any available WLA, but to ensure that the permit complies with the requirements of Section 301. Given the lapse of time between TMDL approval, and derivation of the baseline assumptions underlying the TMDL, and given the fact that the in-basin WLAs have been achieved but impairments are still ongoing, this type of inquiry is reasonable, and indeed has been squarely requested of EPA through comments on the record, including but not limited to those from a downstream affected state. (Even commenters objecting to this reassessment recognize that the NPDES permits necessarily incorporate more recent data and information, given the structure of Section 301 and 402; in objecting to a proposed benchmark, the commenter states, "It does not represent the most recent data available to the Agency at the time of permit renewal.")

The optimization requirement is not vague and is within EPA's authority

Some commenters argued that that a special condition, such as the optimization requirement, is not anticipated by rule, guidance or definition. EPA is authorized to impose narrative conditions in permits to abate the discharge of pollutants when, for example, "The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA." 40 CFR § 122.44(k)(4). In this case, optimizing for the removal of nutrients will protect all uses in an already impaired water body by reasonably minimizing the amount of nitrogen load to the LIS. This condition, combined with the hold the load numeric TN requirements, provides further assurance under Section 301 and 401(a)(2) that water quality standards will be met. Special conditions are defined in EPA's NPDES Permit Writer's Manual as those which,

> "supplement numeric effluent limitations and require the permittee to undertake activities designed to reduce the overall quantity of pollutants being discharged to waters of the United States, to reduce the potential for discharges of pollutants, or to collect information that could be used in determining future permit requirements." (*NPDES Permit Writers' Manual, Chapter 9,* USEPA September 2010 [EPA833-K-10-001], page 9-1).

As the optimization requirement supplements the TN annual average load limit and is designed to reduce the overall quantity of nitrogen being discharged, it clearly fits within this definition. The requirement is not overly prescriptive, because it is intended to afford the Permittee with the latitude to develop the optimization strategy that best meets the configuration and operation of the facility. EPA in imposing the optimization requirement is not dictating specific operational measures at the facility.

EPA disagrees that the optimization is vague. Optimization has been defined, for example, as the process of identifying the most efficient or highest quality outcome, given current constraints, by maximizing positive factors and minimizing negative factors. A permittee applying this or other definition in common usage would not be at risk of arbitrary enforcement. Rather, this condition gives a person of ordinary intelligence a reasonable opportunity to know what is prohibited and comply with the requirement by considering objective factors, so that they may act accordingly. The operators of the facility, as evidenced in their comments, have a deep and nuanced expertise in

nutrient removal capabilities and constraints of the plant, and of the factors that impact plant performance.

It is intended that during the first year of the permit, alternative methods of operating the facility to optimize nitrogen removal will be evaluated. At the end of the year, the Permittee will submit a report to the EPA and MassDEP of its findings. The optimal operational method will be self-implementing by the Permittee at the beginning of the second year and does not require EPA or MassDEP approval. It is the intent of EPA and MassDEP that treatment facilities optimize nitrogen removal and, at a minimum, the facilities must not increase their nitrogen discharge loadings.

Voluntary reductions in Total Nitrogen discharge will not assure attainment of water quality standards

Certain commenters suggest that *voluntary* reductions by the out-of-basin dischargers are sufficient to ensure compliance with applicable water quality standards under Section 301 of the Act. The Region disagrees. One long-standing principle is that permits must "ensure" compliance with water quality requirements. *See* 40 CFR § 122.4(d); *In re City of Marlborough*, 12 E.A.D. 235, 250 (EAB) (2005) (finding that "possible" compliance is not the same as "ensuring" compliance); *In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323,342 (EAB 2002) (finding that "reasonably capable" does not comport with the "ensure" standard). EPA has similarly interpreted the CWA to prohibit it from issuing an NPDES permit "[w]hen the imposition of conditions cannot ensure compliance with the applicable water quality requirements of *all affected States*." 40 CFR § 122.4(d) (emphasis added); *accord Arkansas v. Oklahoma*, 503 U.S. 91, 105 (1992) (noting that the regulation dates back from 1973). EPA has promulgated two other regulations with similar requirements. The first requires each NPDES permit to include conditions necessary to "[a]chieve [WQSs] established under section 303 of the CWA, including State narrative criteria for water quality." 40 CFR § 122.44(d)(1). The second requires each NPDES permit to "[i]ncorporate any more stringent limitations…established under Federal or State law or regulations in accordance with section 301(b)(1)(C)." 40 CFR § 122.44(d)(5). Pollutant controls that may be set aside, for any reason, at the sole election of the discharger—even if those increased loadings will contribute to further violations of water quality standards—cannot be said to "ensure" compliance with these standards. EPA is thus obligated under Section 301 of the Act and implementing regulations to include enforceable limits in the permit.

There is a reasonable level of scientific certainty given the facts in the record to establish an effluent limit

Some commenters argued that more data and modeling is necessary before determining whether further nitrogen controls from out-basin-dischargers would be necessary and, if so, the precise extent of those reductions. While there will always be an irreducible amount of uncertainty given the varied sources of nitrogen loading into LIS and the size and complexity of that water body, EPA is nevertheless obligated to exercise its scientific expertise and apply its technical judgment based on the information it has at the time of permit reissuance, which under the Act is called for at regular intervals not to exceed five years. *See Upper Blackstone*, 690 F.3d at 22 ("[N]either the CWA nor EPA regulations permit the EPA to delay issuance of a new permit indefinitely until better science can be developed, even where there is some uncertainty in the existing data."); *Ethyl Corp. v. EPA,* 541 F.2d 1, 28 (D.C.Cir.1976) (en banc) ("[R]ecognizing ... the developing nature of [the

field].... [t]he [EPA] Administrator may apply his expertise to draw conclusions from suspected, but not completely substantiated, relationships between facts, from trends among facts, from theoretical projections from imperfect data, from probative preliminary data not yet certifiable as 'fact,' and the like."). But here, once again, what remains certain and undisputed on the record before EPA is the fact that large amounts of nitrogen from out-of-basin dischargers contribute to ongoing nitrogen water quality impairments in LIS, which provides a reasoned basis to support the imposition of enforceable effluent limitations for the pollutant. *Miami–Dade County v. EPA,* 529 F.3d 1049, 1065 (11th Cir.2008) (holding that the "EPA is compelled to exercise its judgment in the face of scientific uncertainty unless that uncertainty is so profound that it precludes any reasoned judgment"). In light of this fact and applicable case law construing the Act, EPA is more than entitled under the Act to proceed with the imposition of reasonable permit effluent limits, designed to achieve gross reductions, on the out-of-basin dischargers.

There has been sufficient opportunity for public comment

Finally, contrary to several commenters' assertions, the permitting approach underlying this proceeding has been subject to a very significant degree of public process, input and scrutiny. MassDEP and EPA held two public meetings for Massachusetts permittees in the Long Island Sound watershed to explain the approach on June 7, 2019 in Springfield, MA and on June 21, 2019 in Greenfield, MA. EPA has received substantial public comments regarding proposed numeric TN effluent limits as a result of extended (60 days) public notice for the 2018 Draft Permit for Springfield Water and Sewer Commission and regarding numeric effluent limits. Doubling the time for comment required by regulations governing the permit issuance was reasonable, especially given that the permit is long expired, water quality impairments are ongoing (and tend to intensify over time when nutrient inputs continue unabated), and Springfield is a large contributor of nitrogen to LIS.

SPECIFIC COMMENTS AND RESPONSES

COMMENTS SUBMITTED BY THE SPRINGFIELD WATER AND SEWER COMMISSION ("SWSC" OR "PERMITTEE")

V. Comments submitted by Joshua D. Schimmel, Executive Director, SWSC by Letter Dated February 9, 2018

Comments Related to CSO and Wet-Weather Flow Issues

Comment 1

CO-PERMITTEE: The draft NPDES permit is issued to the SWSC, but also to the six towns identified above. While none of these towns own or operate a CSO (all CSOs are located in the City of Springfield), their collection systems contribute to a combined system, and all wastewater from the six municipalities eventually flows to the SRWTF for treatment and discharge (or overflows at a CSO in Springfield).

The following concerns are noted:

Lack of Legal Basis to Permit Satellite Communities:

The Clean Water Act (the Act) does not authorize EPA to issue NPDES permits to the Satellite Communities, much less include them as co-permittees in the Draft Permit. The Act prohibits any person from discharging pollutants except in compliance with its permitting requirements:

> Except as in compliance with this section and sections 1312, 1316, 1317, 1328, 1342, and 1344 of this title, the discharge of any pollutant by any person shall be unlawful.[25]

EPA may issue permits for the discharge of pollutants, so long as the discharge complies with all applicable requirements:

> Except as provided in sections 1328 and 1344 of this title, the Administrator may, after opportunity for public hearing issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 1311(a) of this title, upon condition that such discharge will meet either (A) all applicable requirements under sections 1311, 1312, 1316, 1317, 1318, and 1343 of this title, or (B) prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this chapter.[26]

[25] 33 USC 1311(a).
[26] 33 USC 1342(a)(1).

A discharge of pollutants that must be permitted is defined as follows:

> The term "discharge of a pollutant" and the term "discharge of pollutants" each means (A) any addition of any pollutant to navigable waters from any point source, (B) any addition of any pollutant to the waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft.[27]

A point source from which pollutants are discharged is defined as follows:

> The term "point source" means any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include agricultural stormwater discharges and return flows from irrigated agriculture.[28]

Note that the structures that are considered point sources are defined in terms of singular items. They are not defined as, for example, a collection of such items that might make up a "POTW." EPA uses the "collection" concept in its memorandum discussing Satellite Communities that is attached to SWSC's Draft Permit (the EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems ("the Region 1 Approach")). But that "collection" concept is not consistent with the CWA. An NPDES permit is required for the specific conveyance from which pollutants are discharged. In the case of the Draft Permit, those point sources are the enumerated outfalls for treated wastewater and CSO discharges, owned and operated by SWSC.

Similarly, the person to which the Act's permitting requirements apply for any particular discharge is defined in the singular:

> The term "person" means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body.[29]

Thus, the discharge of any pollutant to navigable waters from any point source by any person is prohibited except in compliance with the Act. None of the applicable terms specifically contemplated multiple permittees responsible for a single discharge.

However, the possibility of separate ownership and operation of a particular point source is contemplated. In that instance, a single person is responsible for obtaining the necessary permit:

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[27] 33 USC 1362(12).
[28] 33 USC 1362(14); 40 CFR 122.2.
[29] 33 USC 1362(5).

> Who applies? When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit.[30]

The grants portion of the Act is structured similarly. Despite the fact that a particular POTW can encompass many tributary and supporting structures,[31] the Act contemplates granting construction funds to a single entity:

> The Administrator shall not make grants from funds authorized for any fiscal year beginning after June 30, 1974, **to any State, municipality, or intermunicipal or interstate agency** for the erection, building, acquisition, alteration, remodeling, improvement, or extension of treatment works unless the grant applicant has satisfactorily demonstrated to the Administrator that—[32]

Nowhere does the Act specifically contemplate issuing either permits or grants to more than one person for a single POTW or a single discharge.

In fact, the Act explicitly recognizes that a POTW could serve multiple communities, whose collection systems are not part of the permitted POTW:

> The Administrator shall not approve any grant after July 1, 1973, for treatment works under this section unless the applicant shows to the satisfaction of the Administrator that **each sewer collection system discharging into such treatment works** is not subject to excessive infiltration.[33]

Thus, contrary to assertions contained in the Region 1 Approach, a satellite community's collection system does not automatically become a part of the POTW to which it connects for the purpose of conveying wastewater to a regional treatment plant. Nor does that satellite community become a person responsible for the discharge of pollutants from that POTW by the mere fact of its connection. Only the owner/operator or, if different, the operator of the POTW is responsible for obtaining and complying with an NPDES permit related to that discharge.

Congress could have provided for single permits to cover multiple collection systems in the NPDES program, but did not. In contrast, the Act does provide for such permits in the stormwater program:

Municipal discharge. Permits for discharges from municipal storm sewers—

(i) may be issued on a system- or jurisdiction-wide basis[34]

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[30] 40 CFR 122.21(b).
[31] 33 USC 1292(2).
[32] 33 USC 1281(g)(2) (emphasis added).
[33] 33 USC 1281(g)(3) (emphasis added).
[34] 33 USC 1342(p)(3)(B); *see also* 40 CFR 122.33.

In the absence of clear authority in the NPDES portions of the Act, EPA cannot presume such authority exists.

As a result, the Region 1 Approach is not supported by the Act, and the Satellite Communities should not be included as co-permittees in the Draft Permit. SWSC recognizes that the Region 1 Approach has been upheld by the Environmental Appeals Board.[35] However, that opinion has not been subject to judicial review, and Springfield believes that the Region 1 Approach should be determined to be unauthorized and the EAB reversed.

It appears that even EPA does not consider the Satellite Communities to be dischargers for purposes of the entire Act. For example, the Draft Permit does not require the Satellite Communities to comply with all provisions of the Act—only Parts I.C, I.D, and I.E apply—despite the Act's requirement that permittees be required to comply with all permitting provisions.[36] Further, EPA seems to go to great lengths to justify treating the Satellite Communities as co-permittees for purposes of the Draft Permit. This implies that in some circumstances, EPA would not treat all satellite communities to a particular POTW as co-permittees. This ignores the fact that the Act's permitting requirements are not discretionary. If all satellite communities are dischargers, then all satellite communities must obtain NPDES permits and be subject to all NPDES permitting requirements. If not, then the Region 1 Approach is not supported by the Act.

Following the Region 1 Approach leads to some unintended consequences that EPA apparently has not considered. Examples include:

a) Inconsistency in Co-Permittee Requirements: The draft permit page 1 of 24 states:

> *"…are co-permittees for **Part C**, Unauthorized Discharges; **Part D**, Operation and Maintenance…and **Part E**, Alternate Power."*

However, the Fact Sheet page 5 of 34, Part I, paragraph three states:

> *"These municipalities are co-permittees for certain activities pertaining to proper operation and maintenance of their respective collection systems (see **Part I.C. and I.D** of the draft permit."*

b) Liability: The draft permit page 1 of 24 states*: "The permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own and operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E."*

The issue of liability for violations of the permit when such a permit is issued to multiple entities is a concern. An example would be if the SRWTF experiences an unauthorized bypass due to excessive flows. Which of the six named co-permittees would be held responsible for causing or

[35] *In re Charles River Pollution Control District*, NPDES Appeal No. 14-01 (EAB Feb. 4, 2015).
[36] 33 USC 1342(a).

contributing to that discharge? What if CSO discharges increase at a particular location over time? Would the permittee, a co-permittee, or combination of co-permittees be responsible?

c) Unauthorized Discharges: On page 13 of 24, Part C, the draft permit states: *"The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Part I.A.1 and Part I.B.1 of this permit."*

While the above language is common to NPDES permits across the country, of concern in this permit is the inability to clearly identify liability with a single permit issued to seven entities (SWSC and six co-permittees).

For example, it is our understanding that discharge location 042 has historically been treated as an emergency bypass, and we will request that it continue to be treated so. However, if the U.S. Environmental Protection Agency (EPA) fails to grant an affirmative defense for its use, SWSC may be subject to fines and penalties, yet the cause of the unpermitted discharge is excessive flows [perhaps due to illegal cross-connections between storm drain and sanitary sewer systems, failure to implement inflow and infiltration (I/I) control, etc.] from any one or more of the six co-permittees.

In addition, it is not clear that DOJ would be empowered to enforce violations of the Draft Permit by any of the Satellite Communities. Recent guidance issued by the Associate Attorney General prohibits DOJ from using its enforcement authority to effectively convert agency guidance documents into binding rules.[37] In the absence of statutory or regulatory authority requiring issuance of permits to every satellite community that connects its collection system to a POTW, the Region 1 Approach is simply a guidance document, which cannot be legally enforced.

Request: EPA must consider removing the co-permittees from this permit and seeking other means to regulate the upstream towns. If that is not possible, EPA must clarify if the co-permittees are responsible for Part C, Part D and Part E, or are only responsible for Parts C and D; critically examine language regarding liability and modify it to limit SWSC's liability for non-compliance with the permit related to co-permittees; and clarify the liability of co-permittees for hydraulically connected systems.

Response 1

As the commenter observes, the question of whether municipal satellite collection systems are subject to the NPDES program because they fall within the definition of POTW and discharge pollutants to U.S. waters has been litigated before the Environmental Appeals Board and EPA's interpretation of the Act and implementing regulations has been upheld. *Charles River Pollution Control District*, 16 E.A.D. 623 (EAB 2015). This decision was not

[37] *Memorandum Limiting Use of Agency Guidance Documents in Affirmative Civil Enforcement Cases*, Associate Attorney General (Jan. 25, 2018).

based on Region 1 guidance, but was instead based on the plain meaning of the Act and implementing regulations. The Board found the Region's permitting approach to be consistent with both. The issue need not be relitigated at every permit issuance. EPA reaffirms the reasoning in that decision here, and the positions set forth in its principal brief in that case.[38]

There can be no serious dispute that the satellite sewage collection systems owned by the Towns fall within the language of the section 212 definition of "treatment works." Under the NPDES permit regulations at 40 CFR § 122.2, a "POTW is defined at § 403.3 of this chapter." 40 CFR § 122.2. Section 403.3(q) in turn provides:

> 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). This definition of [POTW] 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. Id. § 403.3(q). CWA section 212 states that the term "treatment works" includes "sewage collection systems, pumping, power and other equipment, and their appurtenances" and "sanitary sewer systems." CWA § 212(2)(A)-(B), 33 U.S.C. § 1292(2)(A)-(B).

Nor is there is any question whether the pipes and other conveyances that comprise the municipal satellite collection systems fall within the definition of point sources whose wastewater flows reach U.S. waters. The commenter itself concedes that the municipal satellite collection systems at issue here are part of the POTW (they "contribute to a combined system") and that these components of the POTW discharge to U.S. waters ("all wastewater from the six municipalities eventually flows to the SRWTF for treatment and discharge (or overflows at a CSO in Springfield)").

The commenter bases its objections to the co-permittee provisions on two erroneous premises: that a discharge must be directly into U.S. waters in order to fall within the ambit of the Act and that NPDES permits may only be issued to the owner or operator of the physical outfall to those waters, even if there are multiple conveyances owned by different entities contributing to that discharge.

This interpretation of the Act, which shares attributes of what has been termed the terminal point source theory, is incorrect, as the Supreme Court has ruled, because it is at odds with the text, structure and objectives of the Act, and if adopted would amount to a roadmap for evading its strictures. The CWA does not require a discharge from a point source to be "directly" or "immediately" into a jurisdictional surface waters in order to for it to be covered by the NPDES permit program. *See, e.g.*, *Rapanos v. United States*, 126 S.Ct. 2208 (2006)

[38] https://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/Filings%20By%20Appeal%20Number/C158D222DA78251E85257D63004CC1EA/$File/Region%201%20Response%20to%20CRPCD%20Petition%20(092614).pdf.

(permits required even for point source pollutants that "do not emit 'directly into' covered waters, but pass 'through conveyances' in between.").

Under the Act, a party does not cease to discharge pollutants merely because the pollutants pass through a third-party conveyance before reaching the waters of the United States. Construing those portions of the POTW that are upstream of treatment facility as also "discharg[ing] a pollutant" and subject to the NPDES program is consistent with the line of cases and regulations implementing the Act that provide that persons who discharge pollutants through conveyances owned by another entity may be subject to NPDES permit requirements. *E.g.*, *Dague v. Burlington*, 935 F. 2d 1343, 1354-55 (2d Cir. 1991) (affirming district court holding that city discharged pollutants without a permit when pollutants from city's landfill entered pond and flowed through culvert owned by a third party into navigable waters), rev'd in part on other grounds, 505 U.S. 557 (1992); *United States v. Ortiz*, 427 F.3d 1278, 1284 (10th Cir. 2005) (holding facility owner liable for discharging pollutants through sanitary sewer system that connected to storm drain owned and operated by another entity and flowed to waters of the United States); *San Francisco Baykeeper v. W. Bay Sanitary Dist.*, 791 F. Supp. 2d 719, 771 (N.D. Cal. 2011) (NPDES permit required for owner of collection system discharging sanitary sewer overflow into waters of the United States via municipal separate storm sewer owned by another entity); *Puerto Rico Campers' Association v. Puerto Rico Aqueduct and Sewer Authority*, 219 F. Supp. 2d 201, 217 (D. Puerto Rico 2002) (holding that conveyance of pollutants from one waste water treatment plant to another constituted a "discharge" under the CWA); *United States v. Velsicol Chemical Corp*., 483 F. Supp. 945, 947 (D.C. Tenn. 1976) (holding that discharges into a municipal sewer system are covered under the CWA because "[d]efendant knows or should have known that the city sewers lead directly into the Mississippi River and this is sufficient to satisfy the requirements of discharging into 'water of the United States,'"); *see also* 40 CFR §§ 122.26(a)(4), (a)(5) (industrial stormwater discharges through municipal storm sewer system), 122.44(m) (discharges through privately owned treatment works). *See generally Pepperell Assocs. v. United States EPA*, 246 F.3d 15 (1st Cir. 2001) (factory owner fined for oil that spilled from a boiler gasket, into an industrial drain, through a conduit, and eventually into a creek). EPA thus rejects the commenter's attempt to impose an arbitrary limitation on the reach of the Act and NPDES permitting program, *i.e.*, that they are limited to regulating the owner or operator of the actual outfall pipe.

It follows that the Act, for these same reasons, does not restrict the reach of an NPDES permit for a point source discharge to a single owner or operator where there are multiple contributing dischargers. The commenter hinges its reading of the Act on the use of the singular in definitions of "point source" and "person." There is nothing in the text, structure or legislative history of the Act that would imbue this drafting decision with the regulatory consequence envisioned by the commenter. In addition to being inconsistent with a long line of case law construing the Act that are cited above, the commenter's theory cannot be squared with EPA regulations implementing Section 301 and 402 that subject multiple persons contributing pollutants from multiple point sources to a combined discharge to the NPDES program. 40 CFR §§ 122.26(a)(4), (a)(5) (industrial stormwater discharges through municipal storm sewer system), 122.44(m) (discharges through privately owned treatment works). Either this manner of regulation is foreclosed as a matter of statute or it is not. While

the commenter may have preferred the existence of a regulation as a basis for imposing a limited set of requirements on co-permittees, EPA is authorized to directly implement Section 301 and 402 based upon their plain meaning. Further, the commenter's reading of the Act would hamstring EPA from carrying out its obligations under Section 301 and 402. Under the commenter's theory, a single facility with multiple outfall points would require a separate permit for each one. Or, a single facility with a single outfall point but owned or operated by multiple persons would require multiple NPDES permits. Alternatively, under the commenter's reasoning, if the plural rather singular were used, then permits could not be issued if a single person owned or operated the multiple outfalls, or multiple persons operated a single outfall. This interpretation of the Act does not lead to reasonable results and would compromise orderly and efficient implementation of the Act. The more natural reading, grounded in canons of statutory construction, is simply that the singular includes the plural, and vice versa. The opening section of the United States Code, for example, declares that "[i]n determining the meaning of any act of Congress, unless the context indicates otherwise—words importing the singular include and apply to several persons, parties, or things; [and] words importing the plural include the singular; …." 1 U.S.C.A. § 1. Congress "does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes." *Whitman v. Am. Trucking Associations*, S. Ct. 903, 909–10 (2001). The commenter's textual arguments ultimately founder upon this principle.

In sum, the municipal satellite collection systems are themselves operators of point sources that discharge pollutants to U.S. waters, and thus subject to the NPDES permitting program, even if their contribution to the combination of pollutants in the final discharge from the outfall at the POTW treatment plant operated by Springfield cannot be easily distinguished.

In response to arguments made by the commenter about inconsistencies in permit requirements, EPA has clarified that the co-permittees are responsible for Parts C (Unauthorized Discharges), D (Operation and Maintenance), and E (Alternate Power Source) in the Final Permit (EPA acknowledges that Part E was inadvertently omitted from the description of the parts of the Draft Permit which apply to the co-permittees). EPA appreciates the commenter pointing this out.

EPA has examined language regarding liability and does not discern any ambiguity or imprecision in it: The Permittee and co-permittees each are liable for complying with their respective obligations in the Final Permit, which are expressly delineated and set forth on the face of the permit. Complexity or potential difficulty in developing a future enforcement action is not a reason to forestall compliance with the requirements of the Act. EPA would be open to language that might further clarify the obligations and responsibilities of the participants in this arrangement, but neither Springfield nor the co-permittees have offered any proposed language in this regard. If, in the future EPA or a citizen, were to seek to enforce the provisions of the permit, the Permittee and/or co-permittees may raise any concerns it has about such an enforcement action at that time and in the appropriate forum, whether such action is brought administratively or in federal court. As with a single permit issued to a single owner or operator, if either the Permittee or co-permittee violate the

requirements of their permits, liability could attach assuming EPA and/or citizens carry their burdens based on the law and facts of any future case.

These same considerations apply to the issue of unauthorized discharges.

With respect to the concerns expressed in the above comment related to DMR reporting requirements, total influent flow refers to the instantaneous flow at the time of the closest measurement taken when the bypass of secondary treatment commenced as well as when it was terminated. This clarification has been in made in Part I.A.1., Footnote 3 of the Final Permit.

Comment 2

Blending: SWSC has identified several concerns related to the discussion of a secondary bypass (blending) as described below:

a) Cutoff Flow for Bypass of Secondary Treatment: The draft permit page 3 of 24 states: *"A bypass of secondary treatment is allowed when wet weather flow exceeds the wet weather capacity of the secondary treatment."* SWSC is concerned that the "wet weather capacity of the secondary treatment" is not defined, and is left open to interpretation. SWSC is aware that the draft Fact Sheet states: *"The Facility has the capacity to provide...secondary treatment for flows up to 134 MGD."* However, the facility operator will likely need to make a determination to bypass secondary treatment based upon peak hourly flow or some measure other than an average daily flow volume (which cannot be determined until the day has concluded). This leaves the Permittee open to a violation and/or penalty due to the interpretative nature of the bypass language. Furthermore, future changes in plant processes to meet the regulatory requirements will continue to inform changes in how the bypass is initiated.

   Request: Modify the language to read: *"A bypass of secondary treatment is ~~allowed~~ authorized when peak wet weather flow exceeds the wet weather capacity of the secondary treatment."*

b) DMR Reporting Requirements: The draft permit page 5 of 24, footnote 3, requires that the SRWTF record the date, time, and "total influent flow" at time of initiation and termination of the bypass. The permit does not define "total influent flow" or the mechanism for its measurement.

   Request: EPA must define "total influent flow" as either the instantaneous flow at the time of measurement, or the total flow received on a calendar day up to that point.

c) Blending Is Considered Non-Compliance: The draft permit page 5 of 24, footnote 3, states: *"A bypass of secondary treatment also is subject to the requirements of Part II.B.4.c and Part II.D.1.e of this permit."*

   Part II.B.4.c refers to an unanticipated bypass, for which notification in accordance with II.D.1.e must be submitted. Notification requirements are necessary for *"any non-compliance which may*

endanger health or the environment. This section requires not only 24-hour reporting, but a written submission which details the cause of the non-compliance, and steps taken to reduce, eliminate and prevent reoccurrence of the non-compliance."

Blending after primary treatment during high flow events was part of the original plant design to maximize the amount of flow it can treat. It is of particular concern that each time SWSC initiates blending of primary and secondary treated flows, it is considered "non-compliance." Not only does this expose the Facility to fines and penalties from the EPA, it also exposes the SRWTF to third party lawsuits. Additionally, it is perplexing why EPA is choosing to identify blending at this facility as a non-compliant event, when in the Fact Sheet page 8 of 34, EPA states: *"At this time, there(sic) no feasible alternatives to this bypass have been identified without the discharge of additional untreated sewage in the system's CSOs."*

Note that in accordance with the EPA 1994 Combined Sewer Overflow Control Policy 59 Fed. Reg. 18,688 (Apr. 19, 1994) (National CSO Policy), Section II.C.7 "Maximizing Treatment at the Existing POTW Treatment Plant," a facility may be authorized to allow a CSO-related bypass of secondary treatment without the need to provide approval on a case-by-case basis, where it can be shown that the facility has completed a No Feasible Alternatives Analysis in accordance with this section.

Specifically, EPA's National CSO Policy clearly indicates that a permit may "define the specific parameters under which a bypass can <u>legally</u> occur," and further states:

> Under this approach, EPA would allow a permit to <u>authorize</u> a CSO-related bypass of the secondary treatment portion of the POTW treatment plant for combined sewer flows in certain identified circumstances.

59 Fed. Reg. at 18,693 (emphasis added). The CWA requirement that "each permit…for a discharge from a municipal combined storm and sanitary sewer shall conform to" the CSO Policy provides statutory authority for issuance of permits authorizing peak wet weather discharges consistent with the National CSO Policy. CWA 402(q)(1), 33 USC 1342(q)(1).

Further, EPA's own guidance documents support the <u>authorization</u> of a CSO-related bypass. Combined Sewer Overflows Guidance for Permit Writers (EPA 832-B-95-008, Sept. 1995) (CSO Permit Writers Guidance). That document has never been withdrawn by EPA, and provides the following example permit language for authorized CSO related bypasses:

> A CSO-related bypass of the secondary treatment portion of the POTW treatment plant is authorized when the flow rate to the POTW treatment plant is as a result of precipitation event exceeds [insert flow rate in MGD]. Bypasses that occur when the flow at the time of the bypass is under the specified flow rate are not authorized under this condition and are subject to the bypass provision at 40 CFR 122.41(m).

Finally, it is important to note that new requirements proposed by EPA for the secondary bypass reflects a substantial change in the regulatory requirements that are imposed on NPDES dischargers, which are proposed to be imposed without following any of the procedures required

before such a change can be made. The U.S. Court of Appeals for the D.C. Circuit has held as follows:

> Once an agency gives its regulation an interpretation, it can only change that interpretation as it would formally modify the regulation itself: through the process of notice and comment rulemaking.

Alaska Professional Hunters Assoc. v. Federal Aviation Admin. 177 F.3d 1030, 1033-34 (D.C. Cir. 1999), quoting *Paralyzed Veteran of America v D.C. Arena*, 117 F.3d 579, 586 (D.C. Cir. 1977).

Since the Fact Sheet identifies that there are "no feasible alternatives" to the secondary bypass, clearly SWSC is authorized under this permit to operate a secondary bypass. Therefore, the event should not be identified as a "non-compliant" event (since it is clearly authorized) and reporting requirements under II.D.1.e should also not be required.

Request: EPA must clearly identify the bypass of secondary treatment under the circumstances described in the permit as an authorized bypass in accordance with the National CSO Policy Section II.C.7, and remove those sections of the permit that identify this treatment process as non-compliant with the permit.

If EPA will not authorize a secondary bypass under this permit, the SWSC should be given the opportunity to provide a No Feasible Alternatives Analysis. If the secondary bypass is not ultimately explicitly stated as being compliant with the permit, SWSC may be forced to discontinue bypassing under high-flow conditions, which could result in the overall treatment process being compromised so that a poorer quality effluent is discharged, or additional untreated flows will be bypassed at 042, or in upstream CSOs. SWSC believes it is environmentally beneficial to provide at least partial treatment (through blending) rather than no treatment at all, but if the secondary bypass is regulated as an unauthorized bypass, SWSC will need to reevaluate this practice.

d) New Metering Location: On page 5 of 24 of the draft permit, footnote 3 states: *"The following information shall be reported and submitted as an attachment to the monthly DMRs for each day there was a bypass of secondary treatment: date and time of initiation, total influent flow at time of initiation, date and time of termination, total influent flow at time of termination, total duration of flow, and total volume of flow…"* Sub footnote a also states: *"Flows shall be measured using a meter."*

While the SWSC does not object to providing information on the DMRs relative to date, time and instantaneous flow recordings at the initiation and termination of the secondary bypass, SWSC does not believe that metered readings of the flow volume in the secondary bypass line is warranted given the extreme rarity of plant bypasses, the level of effort that would be required to accomplish this request, and the lack of a regulatory need to require internal plant metering of such flows.

For example, in 2017, there was only one secondary bypass that lasted 1.7 hours. Given the estimated bypass flow of 3.5 million gallons and the fact that the SRWTF accepted 12.94 billion gallons of flow over the course of 2017, the bypassed flow represented less than 0.03% of total plant flow. Coupled with this infrequent use of the bypass, the physical conditions that exist at the plant would make installing a meter extremely difficult in the bypass line.-This would be a very expensive effort to obtain a flow reading once or twice a year.

Note that the quantity of secondary bypass flows can be estimated by SWSC, and SWSC would be willing to provide data as a calculated determination, rather than a metered determination.

Request: Please clarify that "total influent flow" refers to instantaneous flow at the time of initiation and termination of the secondary bypass. In addition, SWSC requests that secondary bypass flow not be required to be metered and instead be calculated as described above.

e) New Sampling Location: In the draft permit page 5 of 24, footnote 4 states: *"All required effluent samples shall be collected at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment…"*

While SWSC does not object to taking all required effluent samples of the comingled flow, the requirement to utilize these samples to determine compliance is a new requirement, and SWSC has very limited data to determine compliance relative to plant flows and operations. Therefore, SWSC requests a compliance schedule of 18 months prior to this sampling location being used for purposes of compliance. This will enable SWSC to have an opportunity to sample the comingled flows for a period of 12 months over a variety of flow and weather conditions, and to then provide time for an engineering analysis to determine what, if any, plant operations need to be modified to ensure that NPDES permit effluent limitations will be met at all times, including during secondary bypass.

Request: Provide an 18-month compliance schedule so that SWSC can evaluate sampling data after comingling for the purpose of permit compliance.

Response 2

Permit conditions related to bypasses of secondary treatment are set forth in Part II.B.4. of the Final Permit. Specifically, in accordance with 40 CFR § 122.41, Part II.B.4 incorporates verbatim the Bypass rule at 40 CFR § 122.41(m). Under EPA regulations, "bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

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

(B) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering

judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(C) The permittee submitted notices as required under paragraph (m)(3) of this section."[39]

However, EPA "may approve an anticipated bypass, after considering adverse effects, if [EPA] determines that it will meet the [above] three conditions."[40]

The Permittee's comments regarding the authorization of a CSO-related bypass reference Section 7 of the 1994 CSO Policy, entitled "Maximizing Treatment at the Existing POTW Treatment Plant." 18688 Fed. Reg. at 18693. Following the approach set forth therein, EPA may include a CSO-related bypass provision in the permit if there are no feasible alternatives to bypassing under specific conditions. Section 7 of the CSO Policy further provides that:

"For approval of a CSO-related bypass, the long-term CSO control plan, at a minimum, should provide justification for the cut-off point at which the flow will be diverted from the secondary treatment portion of the treatment plant, and provide a benefit-cost analysis demonstrating the conveyance of wet weather flow to the POTW for primary treatment is more beneficial than other CSO abatement alternatives such as storage and pump back for secondary treatment, sewer separation, or satellite treatment."

…"[T]he feasible alternatives requirement of the [bypass] regulation can be met if the record shows that the secondary treatment system is properly operated and maintained, that the system has been designed to meet secondary limits for flows greater than the peak dry weather flow, plus an appropriate quantity of wet weather flow, and that it is either technically or financially infeasible to provide secondary treatment at the existing facilities for greater amounts of wet weather flow. The feasible alternative analysis should include, for example, consideration of enhanced primary treatment (e.g., chemical addition) and non-biological secondary treatment. Other bases supporting a finding of no feasible alternative may also be available on a case-by-case basis."

Id. at 18693-94. EPA's Combined Sewer Overflows Guidance for Permit Writers further articulates that the permittee should "provide adequate justification for the CSO-related bypass and clearly define the wet weather flow conditions and flow rate at which secondary treatment is exceeded." EPA Combined Sewer Overflows Guidance for Permit Writers (Sept. 1995) 4-36.

EPA requires further information or analysis to support inclusion of CSO-related bypass conditions in the Permit for specific flows. *See In re: City of Lowell*, 2020 WL 3629979 (E.A.B. June 29, 2020) at 58-59, n.36 (noting that "CSO Policy emphasize[s] that the permittee bears the burden of showing that there is no feasible alternative to bypass of

[39] 40 CFR § 122.21(m)(4).
[40] *Id*.

treatment"). Although the Permittee's 2014 Integrated Wastewater Plan ("IWP") does contain a "Financial Capability Assessment," it does not expressly analyze the cost/benefits of eliminating the secondary bypass versus other CSO abatement project. *See CSO Policy.* at 18693. Indeed, the IWP is largely silent on the issue of bypass and the elimination of bypass. The Permittee has not provided a justification for the cut-off point for the bypass or specified at what level of flow for which it seeks bypass approval. *See id*.

EPA acknowledges that the Permittee has submitted a High Flow Wet Weather Management Standard Operating Procedure (SOP) dated August 2016, in preparation for a compliance inspection by EPA. The SOP identifies the circumstances under which the SWSC diverts some wet weather flows around secondary treatment. The SOP does not itself satisfy the requirements for the approach outlined in Section 7 of the CSO Policy such that it alters the appropriate permitting approach for CSO-related bypasses. EPA notes that the SOP states that while high flows typically result in secondary treatment of 134 MGD, higher flow rates up to 185 MGD "may be accepted through the secondary treatment process" in certain situations. EPA seeks clarification on when secondary treatment is technically feasible in order for the Region to inform the decision on "defin[ing] under what specific wet weather conditions a CSO-related bypass is allowed." *See id*. Additionally, EPA notes that in order to approve a bypass in the permit it must "also ensure that the bypass will not cause exceedances of WQS."

Consequently, the permit does not approve the bypass of secondary treatment. The Permittee is welcome to submit such documentation for EPA consideration. EPA is ready to work with the Permittee to provide any additional clarification necessary on the type of information it would need to submit to support its request for bypass approval in the permit. Should the Permittee provide adequate information for approval of the CSO-related bypass during the term of this current permit term, EPA will consider modifying the permit in order to do so.

Importantly, EPA's decision not to approve the bypass in the permit does not mean that all bypasses from the facility going forward may not be approved or that the Permittee "may be forced to discontinue bypassing under high-flow conditions," as asserted in the comment. Rather, it means "it is the responsibility of the Permittee to document, on a case-by-case basis, compliance with 40 CFR § 122.41(m) in order to bypass flows legally," 59 Fed. Reg. at 18693 (emphasis added), which is the default, regulatory bypass approach that has been in place in past permits and other Region 1 issued permits for CSO-WWTFs. *See In re: City of Lowell*, 2020 WL 3629979 (E.A.B. June 29, 2020) at 58-59.

With regard to the Permittee's assertion that EPA determined in the fact sheet "that there are 'no feasible alternatives' to the secondary bypass," EPA does not agree that this was a formal determination within the meaning of Section 7 of the CSO Policy. That statement in the Fact Sheet occurred within a technical explanation of the wastewater collection system in a section entitled "Facility Information." It was not intended as a legal determination. As explained above, EPA is lacking, as it was at the time of issuing the Fact Sheet, a significant amount of information it would need in order to support a no feasible alternatives determination to approve secondary bypass. Until EPA has such information, it cannot and

has not made a determination regarding no feasible alternatives in order to approve bypass in the permit.

The notification requirements that apply in the event of a bypass are set forth in Part II.B.4. of the Final Permit. Specifically, if the Permittee knows in advance of the need to bypass secondary treatment (i.e., an anticipated bypass), prior notice shall be submitted at least ten days before the date of the anticipated bypass (see Part II.B.4.c. of the Final Permit.). In the event of a bypass which was not anticipated, (i.e., unanticipated bypass). notification shall be submitted within twenty-four hours of the bypass in accordance with Part II.D.1.e. of the Final Permit. Footnote 3 to Part I.A.1. of the Final Permit has been modified to clarify that "a bypass of secondary treatment is subject to the requirements of Part II.B.4. (and not just Part II.B.4.c.) of the permit (which incorporates the regulations in their entirety which pertain to bypasses of secondary treatment established at 40 CFR 122.41(m)). The statement in Part I.A., page 3 of the revised Draft Permit which reads as "A bypass of secondary treatment is allowed when wet weather influent flow exceeds the wet weather capacity of the secondary treatment" has been removed from the Final Permit, since footnote 3 describes the pertinent sections of the draft permit which apply to bypasses of secondary treatment.

EPA disagrees that "new requirements" related to secondary bypass "reflect a substantial change in the regulatory requirements." Permit provisions incorporating the *Bypass* rule at 40 CFR § 122.41(m) were contained in the previous permit and are therefore not new. Moreover, the permit provisions themselves are verbatim recitations of regulatory requirements that have been in place since 1984 (49 Fed. Reg. 37998, 38037) (Sept. 26, 1984). The Final Permit contains only three new permit provisions with regard to secondary bypass: (1) the requirement to report bypass information on monthly DMRs; (2) the requirement to measure the flows that bypass secondary treatment using a meter; and (3) the prohibition on receiving septage during activation of the secondary treatment bypass (see below). EPA does not assess these requirements to be "substantial."

With respect to the concerns expressed in the above comment related to DMR reporting requirements, total influent flow refers to the instantaneous flow at the time of the closest measurement taken when the bypass of secondary treatment commenced as well as when it was terminated. This clarification has been in made in Part I.A.1., Footnote 3 of the Final Permit.

With respect to the comment regarding a new metering location, while the WWTP is currently being operated in a manner which reduces the use of the secondary bypass, it is conceivable that future operations and or conditions may change which may result in more frequent bypassing of flows around secondary treatment. As such, the Final Permit remains unchanged from the Draft with respect to requiring metering of flows which bypass secondary treatment. The date in which this requirement goes into effect has been extended to within six months of the effective date of the Final Permit to allow for the installation of metering equipment (see Part I.A.1., Footnote 3, of the Final Permit).

With respect to the comment regarding a new sampling location, the requirement to sample the effluent at a location that will yield data that is representative of the discharge is not new

to this permit. Further, this is required by the federal NPDES regulations established at 40 CFR § 122.41(j)(1), which require samples and measurements taken for the purpose of monitoring to be representative of the monitored activity. Additionally, EPA guidance states that "*Effluent monitoring locations should be established after all industrial uses and treatment processes"* and that the "*point where a final effluent limitation applies and the point where monitoring is required must be the same*". (See *NPDES Permit Writers' Manual, Chapter. 8.1.2.3*, USEPA September 2010 [EPA833-K-10-001]). Since effluent which bypasses secondary treatment flows to the chlorine contact chamber where it is combined with secondary effluent before being discharged to the Connecticut River through outfall 001, the "combined effluent" must meet the effluent limitations which apply to outfall 001, and a "representative sample" would be one that is collected of the comingled effluent, prior to its discharge through outfall 001. Therefore, the Final Permit maintains the requirement to sample the effluent at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment remains. EPA notes, however, that the Permittee is not precluded from conducting additional sampling nor are they precluded from making operational modifications for optimizing treatment efficiencies under various flow conditions.

Comment 3

<u>Reclassification of Outfall 042 from an Emergency Plant Bypass to a CSO</u>:

Throughout the draft permit, existing emergency plant bypass outfall 042 has been re-defined as a CSO. This is of significant concern to SWSC, as the reclassification of this outfall will result in unnecessary expenditures and no environmental or water quality benefit, and will, in fact, provide less regulatory oversight than is currently the case.

The following concerns are noted:

a) <u>Regulatory Basis Not Provided</u>: The currently effective permit for the SRWTF (issued in 2001) as well as the currently effective CSO permit (issued in 2009) both identify the Springfield system as having 23 CSOs, which does not include discharge 042. Permit MA0101613 specifically states: *"This permit only authorizes the discharge from the outfall listed in Part I.A.1 of this permit. Discharges from CSOs are authorized by NPDES permit MA010331."* Yet, NPDES permit MA010331 does not identify 042 as a CSO.

   The regulatory basis in the draft permit provided in the Fact Sheet on page 27 of 34 is as follows: *"CSO 042, which is the CSO outfall located at the treatment plant, was inadvertently omitted from the list of outfalls from which discharges are authorized by the existing CSO permit. It is incorporated here for completeness.*"

This Fact Sheet basis to support the regulatory change is clearly insufficient and fails to address the following:

- The permitting history of 042 needs to be clearly identified from the earliest permit where 042 was first identified to present time. The history needs to include how 042 was identified in each historical permit (i.e. as a bypass), the method SWSC was required to use to report

each use (EPA Bypass Provisions), and all previous written communication EPA, MassDEP and SWSC had in regard to the bypass. EPA needs to define the legal basis of status change of this outfall.

- EPA needs to provide an adequate and defensible basis and background detailing the regulatory basis for the reclassification of this outfall. Simply stating that it was reclassified "for completeness" is insufficient. The EPA Permit Writers Manual Section 11.2 states that a Fact Sheet shall provide a basis to substantiate permit decisions and provide a sound basis for the derivation of permit terms, conditions, and limitations if challenges are made. Clearly, the Fact Sheet in this circumstance has failed to do so.

b) Outfall 042 Does Not Meet the EPA Definition of a CSO: CSOs are defined in the National CSO Policy, Section 1.A:

"A CSO is the discharge from a CSS at a point prior to the POTW Treatment Plant."

The term CSS is defined in this same document: *"A combined sewer system (CSS) is a wastewater collection system owned by a State or municipality (as defined by section 502(4) of the CWA) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works (POTW) Treatment Plant (as defined in 40 CFR 403.3(p))."*

As shown in the Attachment A "Plant Flow Diagram," combined flows from the City of Springfield and customer communities enter the POTW Plant Inlet Structure, where preliminary mixing occurs prior to the 042 emergency plant bypass. Inasmuch as overflow 042 is clearly not "at a point prior to the POTW Treatment Plant" but is, in fact, after flows enter the POTW Treatment Plant Influent Structure, overflow 042 is correctly identified as an emergency plant overflow, and not a CSO. In addition, Emergency Bypass 042 acts as a "plant protection line" during high flows, to prevent overloading of the treatment plant.

c) EPA Recognizes 042 as an Emergency Plant Bypass: EPA currently, and historically, recognizes outfall 042 as a POTW emergency bypass and not as a CSO. Since issuance of SWSC's current NPDES permit in 2001, the SWSC has notified the EPA of each and every use of outfall 042, in accordance with the emergency plant bypass procedures at Part II, B.4(b) of its current permit, which would not be required if the overflow were a CSO. EPA never responded to SWSC that the Emergency Bypass Notifications were not necessary (which would be the case if EPA viewed the bypass a CSO).

At no time did EPA notify the SWSC that reporting of emergency bypass 042 was not necessary, as would be the case for a CSO.

d) Identification of 042 as an Emergency Plant Bypass in the Long Term Control Plan (LTCP) and Integrated Wastewater Plan (IWP): On May 30, 2012, the SWSC submitted to the EPA Region 1 a LTCP developed in coordination with both EPA and the Massachusetts Department of Environmental Protection (MassDEP). This IWP has subsequently been reviewed by EPA, and EPA determined the submittal met all regulatory requirements.

The IWP clearly identifies 042 as a plant emergency bypass. The IWP never identifies 042 as a CSO, and in fact, the IWP provides a detailed plan for addressing the plant overflow leading toward reduction of overflows based on the typical year model.

Section 6.8.4.4 of the IWP states: "The selected SRWTF alternative is Alternative 3 with an estimated capital cost of $2,010,000. This alternative provides the most cost effective solution for controlling discharges at Bypass 042 in conjunction with implementation of a collection system hybrid alternative. Alternative 3 requires the incoming flow to the SRWTF to be limited to 180 MGD, and utilization of step-feed mode during storm events. This creates a potential need for a wastewater storage facility at the SRWTF if flows to the facility cannot be limited upstream of the river crossing."

Section 2.2 page 2-3 of the IWP states: *"It should be noted that the overflow at the SRWTF is designed as Bypass 042 and is not considered part of the CSO regulator system."*

In addition to the above two noted circumstances, the 042 emergency bypass is referred to as a bypass separate and distinct from CSO identification an additional 29 times throughout the IWP.

Since the SWSC's ultimate goal is to reduce the use of the emergency bypass as determined on a typical year (except for extreme events that would quality for an affirmative defense) by limiting flows to the plant to 180 MGD, and is committed to the understanding that the cost involved will be in excess of $2M, there is no environmental, regulatory, or economical advantage for EPA to re-classify this outfall as a CSO.

Furthermore, at this time SWSC is not requesting that flows through 042 be authorized (as they would be under the CSO permit), as such a request would only perpetuate the use of 042 far into the future, with less regulatory oversight than currently is the case as an unauthorized bypass.

While SWSC recognizes that identification as a CSO involves alternative compliance requirements than a plant bypass, since SWSC's ultimate goal is to limit flows to the plant under 180 MGD at this time (the ultimate wet-weather capacity of the headworks and primary clarifiers), in which case expenditures associated with classifying 042 as a CSO would be no longer be necessary, these alternative compliance requirements would not represent an appropriate expenditure and use of ratepayer funds.

Request: SWSC requests that the final permit continue to identify 042 as an emergency plant bypass, and that all sections of the permit and the administrative record be revised as such including but not limited to all sections of the permit that refer to 24 CSOs (revise to 23). The Fact Sheet pages 2 and 27 of 34 also references 24 CSOs, and on page 5 of 34 the Fact Sheet references 25 CSOs. Please revise the permit and the administrative record to reflect 23 CSOs.

Response 3

In developing the draft permit, EPA applied the definition of a CSO in determining the classification of outfall 042. A CSO is defined in Part I.A. of the National CSO Policy as "a discharge from a combined sewer system at a point prior to the POTW Treatment Plant." See

the *National CSO Control Policy*, 59 Fed. Reg. 18688 (1994). "POTW Treatment Plant" is defined as "that portion of the POTW which is designed to provide treatment (including recycling and reclamation) of municipal sewage and industrial waste" (see 40 CFR §404.3(r)). EPA Guidance additionally defines a CSO as "the portion of flow from a CSS which discharges into a water body from an outfall located upstream of the headworks of a POTW." *Combined Sewer Overflows – Guidance for Long-Term Control Plan*, EPA (September 1995).

A CSO-related bypass, on the other hand, is clearly a discharge that occurs after receiving at least primary treatment. "The CSO-related bypass provision in the permit should also make clear that all wet weather flows passing the headworks of the POTW treatment plant will receive at least primary clarification and solids and floatables removal and disposal, disinfection, where necessary, and any other treatment that can reasonably be provided." *National CSO Policy at* 18693. *See also CSO Permit Writers Guidance*, EPA (1995) ("The CSO Control Policy recommends that the permit require all wet weather flows passing the headworks of the POTW treatment plant to receive at least primary clarification, solids and floatables removal and disposal, disinfection (where necessary), and any other treatment that can reasonably be provided.")

As stated in the above comment, influent flows from Springfield and the customer communities enter the inlet structure where they are comingled (i.e., "mixed") to form a single waste stream just upstream of outfall 042. The inlet structure is located before the "headworks" of the treatment plant, which is located on the other side of a parking lot. The headworks contains the initial treatment of the waste stream. *See Cent. Weber Sewer Imp. Dist. v. Ace Fire Underwriters Ins. Co., 2014 WL 495152, at *1 (D. Utah 2014)* ("The headworks of a wastewater treatment plant is the initial stage of a complex process to reduce the level of pollutants in the incoming domestic and industrial wastewater to a level that will allow the treated wastewater or effluent to be discharged into a stream, river, or lake. The function of the headworks is to remove inorganics such as sticks, stones, grit, and sand from the wastewater stream to protect and reduce wear on the downstream process equipment.") No treatment of the waste stream occurs at the inlet structure prior to flows discharging from outfall 042. As the Permittee notes in its comment, there is not even separation of solids and floatables before outfall 042. Mixing of waste streams alone is not considered a form of treatment.

Since the inlet structure was not designed to nor does it provide any treatment, and it occurs before the headworks of the WWTP, discharges from outfall 042 at the inlet structure are appropriately considered CSOs. This classification remains unchanged in the Final Permit.

Contrary to the above comment, SWSC, and not EPA, identifies outfall 042 as an emergency plant bypass in both the LTCP and Integrated Wastewater Plan (IWP). Although the IWP, which incorporates the 2012 LTCP, has been reviewed by EPA, it has not been approved.

EPA acknowledges that it has not consistently permitted outfall 042 as a CSO. In the 1995 permit, NPDES No. MA01101613, the permit labeled 042 as a "bypass." The 2000 permit does not address outfall 042 at all. The 2009 CSO permit labelled 042 as "an unauthorized

bypass of the wastewater treatment plant." That prior permits incorrectly characterized 042 as a bypass or did not address it at all does not preclude the Agency from now correctly characterizing it as a CSO based on a detailed and explicit rationale of the application of EPA regulations and guidance, as provided here and in the Fact Sheet. *See FCC v. Fox Television*, 556 U.S. 502, 515 (2009) (holding that an agency may change a position so long as it provides a reasoned explanation for its action and displays an awareness that it is changing its position); *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2125 (2016) ("Agencies are free to change their existing policies as long as they provide a reasoned explanation for the change"). In light of efforts made by EPA's Enforcement and Compliance Assurance Division ("ECAD") and the City, EPA now has significantly more information regarding the WWTF and its operations, for example as enshrined in the City's IWP and High Flow Wet Weather Management Standard Operating Procedure, than it did in prior permitting cycles. This information has helped inform EPA's understanding of outfall 042.

Additionally, when changing positions in circumstances where there may have been 'serious reliance interests' on the previous position, an agency must also present a "reasoned explanation" for "why it deemed it necessary to overrule its previous position." *Encino* 136 S. Ct. at 2126. Although EPA acknowledges that the Permittee may have relied on EPA's prior erroneous determination of Outfall 042 as a bypass, EPA does not assess that reliance interest as significant as this prior approach did not require the Permittee to make infrastructure investments at 042 that will be negated by this change. Further, the Permittee was required to ensure that discharges from 042 did not cause or contribute to an exceedance of WQS whether it was a bypass or CSO. In any case, EPA's reasoning in the Fact Sheet and supplemented here demonstrate that EPA's determination that Outfall 042 is a CSO is based on sound legal and scientific analyses.

EPA notes that Page 5 of the Fact Sheet which accompanied the 2017 Draft Permit incorrectly referenced 25 CSOs. This reference should have been to the SWSC's 24 CSOs. This correction is noted herein for incorporation into the administrative record.

Comment 4

Public Notification Plan: The draft permit Part B.f. contains new, detailed requirements for SWSC to install and maintain signs at all CSO outfall structures, specifying the exact size, color, languages, and wording of the signs. In addition, the draft permit requires SWSC to develop a public notification plan and specifies that SWSC has to provide notification of every CSO discharge when it occurs, and when it ends, both electronically to interested parties and on its website. The information to be provided includes volume of the CSO discharge.

SWSC objects to these new requirements, which will result in substantial added costs to SWSC and its ratepayers without any added protection for public health, and requests that EPA provide us the legal authority to specify these requirements. Under the National CSO Policy, EPA provides that one of the Nine Minimum Controls (NMCs) is *"public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts."* SWSC has a plan currently that provides that notification, and EPA has never made any determination that the current plan does not meet the CSO policy requirements. The new requirements in the draft permit go well beyond the NMC provision, and should be deleted from the draft permit.

The above notwithstanding, SWSC offers the following specific comments:

a) Public Notification Plan Contents: The draft permit requires that:

"As part of this plan, notification shall be provided electronically to any interested party, and a posting made on the Permittee's website, of a probable CSO activation within 24 hours of the initiation of any CSO discharge(s)."

Furthermore:

"Subsequently, within 24 hours of the termination of any CSO discharge(s), the Permittee shall provide the following on their website and in a follow-up electronic communication to any interested party: CSO number and location, Confirmation of CSO discharge, Total volume discharged from the CSO, and Date, start time and stop time of the CSO discharge."

These requirements are excessive, go far beyond EPA's published requirements, and are costly, and the requirement to monitor flow volume is simply not consistently implementable.

In EPA's Combined Sewer Overflows Guidance for Nine Minimum Controls, Chapter Nine contains specific guidance for the implementation of this NMC measure, as follows:

- Section 1-7 specifically states that, *"The NMC are controls that…do not require significant engineering studies or major construction, and can be implemented in a relatively short period…"*
- Section 9-1: *"The intent of the eighth minimum control, public notification, is to inform the public of the location of the CSO outfalls, the actual occurrences at CSOs, the possible health and environmental effects of CSOs, and the recreational and commercial activities…curtailed as a result of CSOs."*

No meaningful interpretation of this language would conclude flow volume or duration should be required. Further, as detailed in comment #9 below, flow measurement of volume and duration is not feasible to implement for the purposes of CSO reporting.

- EPA NMC guidance provides specific examples of control measures under public notification which are:
    - Posting at affected use areas (SWSC will consider this in the plan)
    - Posting at selected public places (SWSC will consider this in the plan)
    - Posting at CSO outfalls (SWSC has completed this)
    - Notices in newspapers, radio, TV news programs, letters to residents, telephone hotline (SWSC is proposing a website notification described further below)

The requirements of flow duration, and starting and stopping times, go far beyond any controls EPA considered in the NMC guidance. These requirements are, in fact, IWP characterization

requirements, not appropriate for inclusion in a NMC public notification plan. SWSC strongly objects to their inclusion as part of the public notification plan.

As part of our public notification plan, SWSC is considering, the development of a website to provide predicative CSO activation notification to the public. This website would provide 24/7 notification to the public regarding which CSOs are active. CSO notifications and updating of the website would be accomplished electronically with the use of a model and rainfall measurement. By use of the model with automatic, electronic website updating, the public can access immediate and meaningful information regarding the status of the SWSC CSO discharges into the Connecticut River, Chicopee River, and Mill River, and may then make appropriate decisions regarding access to the waterbodies at that time.

This system has been successfully implemented in a number of CSO communities outside of Massachusetts, and has been favorably received by the public, environmental groups and regulated entities.

b) Public Notification Plan Submittal Deadlines: The draft permit requires the submission to EPA of a public notification plan within 90 days of the effective date of the permit, and implementation within six months of the effective date of the permit.

SWSC considers the development of a meaningful public notification plan to be one of our highest priorities. Not only will the SWSC develop a plan that meets the requirements of the National CSO Policy and NMC guidance documents, but SWSC intends to solicit input from the City of Springfield and the surrounding communities in the six co-permittee municipalities. A public notification plan will only be meaningful to the extent that it addresses the needs of the community.

Further, so as to not unnecessarily delay implementation of the public notification plan, SWSC requests that development of the plan and implementation be combined into one activity, as was previously approved by EPA. In this example, all New Jersey CSO owners and appropriate communities (210 CSOs within 26 communities) are required to develop and implement a public notification plan within 36 months of the effective date of their permit. The public notification plan has been re-named the public notification report, to reflect that at the time of submittal of the report (36 months from the effective date of the permit) the public notification plan will already be implemented, and the report can include a discussion of the current operations, public comments and ability to meet the needs of the community.

In order to provide the necessary time to develop a meaningful plan, solicit appropriate input, determine the content and extent of appropriate notification, develop a web-based notification system that integrates the use of our existing model with four strategically located rain gauges, evaluate public posted signs and need for additional public postings, plus other contents of a meaningful public notification plan, SWSC requests that the submittal requirements of this permit reflect the submittal requirements approved under EPA Regions II – namely submittal of a public notification report within 36 months from the effective date of the permit.

Response 4

EPA disagrees with commenter's assertion that the signage provisions in Part I.B.4. of the revised Draft Permit are new. The requirements for the Permittee to install and maintain identification signs for all CSO outfall structures was carried forward from Part I.A.2.e of NPDES Permit No. MA010331 (issued in 2009 to the SWSC and authorizing the discharges from the SWSC's CSO outfalls), and incorporated into the Draft Permit, and therefore are not "new." As the commenter has provided no explanation as to why these signage requirements are unwarranted, unreasonable or impractical, the signage requirements are unchanged in the Final Permit.

The commenter provides a list of examples of public notification control measures contained in EPA's 1995 Guidance for Nine Minimum Controls. This list, however, is merely examples of "potential" controls and not an exhaustive catalogue of controls that a permitting authority may require. NMC Guidance at 9-1. As that Guidance states, "[t]he most appropriate mechanism for public notification will probably vary with local circumstances, such as the character and size of the use area and means of public access." *Id*. Accordingly, EPA is not bound by the list of example controls provided in the NMC Guidance. EPA has determined, based on the unique circumstances of the Permittee's CSO discharges and the receiving waters, that retaining the public notification provisions that were contained in the previous permit is appropriate.

Other than the signage requirements, this comment refers to public notification requirements from the 2017 Draft Permit which were amended in the 2018 Draft Permit or on which the commenter commented on again in 2018. Therefore, responses to comments regarding other public notification plan contents and submittal deadlines are found in Response 42 and 43.

Comment 5

Annual CSO Report: draft permit, page 13 of 24, Section I.B.4, it states: *"The Permittee shall submit a report summarizing the activities during the previous calendar year relating to compliance with the nine minimum controls including the required information on the number of activations for each CSO as well as the volume of each discharge from each CSO."*

The SWSC objects to the inclusion of this requirement for the following reasons:

- As discussed in further detail under comment #9 below, "Quantification of CSO Discharges," the requirement to report the volume of CSO discharge is beyond the regulatory scope of the NMCs, and therefore has no regulatory basis to be included in this permit.

- The number of activations of each CSO will already be reported monthly on each DMR.

- CSO and related inspection records can be kept onsite and inspected by EPA and MassDEP at any time, or submitted at any time.

- All dry-weather overflows (DWO) are already reported to EPA within 24 hours of SWSC becoming aware of an occurrence.

- SWSC has requested a timeline for the submittal of the public notification plan. SWSC anticipates that progress reports will be associated with this timeline.

Inasmuch as the above "activities during the previous calendar year relating to compliance with the nine minimum controls" are satisfactorily addressed without the submission of an additional annual report, SWSC requests this report requirement be eliminated.

Request: Remove requirement I.B.4 Annual CSO Report from the draft permit.

Response 5

The commenter's argument that the requirement to report the volume of CSO discharge is beyond the regulatory scope of the NMCs, and therefore has no regulatory basis to be included in this permit, is unfounded. The Annual Report shall be a comprehensive summary made up of several elements, including a summary of all activities undertaken during the calendar year that demonstrate compliance with the Nine Minimum Controls, and a well as a summary of the CSO discharge and precipitation data that were collected in accordance with Part I.B.5. of the permit. The summaries contained in the annual report will provide information that is necessary for regulators to evaluate the operation of the collection system during wet weather as well as to evaluating compliance with the Nine Minimum Controls (specifically, NMC #2 (maximum use of the collection system for storage), #4 (maximization of flow to the POTW) and #9 (monitoring to effectively characterize CSO impacts and the efficacy of CSO controls)) and overall compliance with the CSO-related requirements of permit. (CSO control policy, Part II.C.1., p. 18691. The annual report will also provide localized information relative to the conditions that result in discharges from individual CSOs). These reporting requirements are not new, and have been carried over from NPDES Permit No. MA010331. The requirement to submit this useful compendium of CSO-related information is well within the Agency's "broad authority to impose monitoring requirements on any point source." the Act "confers broad authority on the Agency to impose monitoring requirements on any point source." *In re: Town of Concord Department of Public Works*, 2014 WL 4310902, at *24 (EAB 2014).

Information that the Permittee has collected in accordance with other permit requirements may be used and summarized in the Annual CSO Report. The Annual CSO Reporting requirement in Part I.B.4 of the Final Permit remains unchanged from the Draft Permit.

Comment 6

Solids and Floatables Removal: Solids and floatable removal is required in permit sections Part I.B.2 (6) (page 10 of 24) and Part I.B.3.C (page 11 of 24). Should EPA continue to classify outfall 042 as a CSO, SWSC will require sufficient time to install this technology.

Request: A timeline must be provided to SWSC to allow three years from the effective date of the permit to provide sufficient time to install solids and floatables control on any newly defined CSOs (i.e., outfall 042, should EPA continue to classify it as a CSO).

Response 6

Due to the inherent nature of combined wastewater, which often contains solids and floatable materials, the Draft and Final Permits impose a requirement to control, rather than remove, solid and floatable materials in CSOs (see specifically Part I.B.2.a.6. (NMC #3 - Control of solid and floatable materials in CSOs)) of the Draft Permit. , EPA believes that one year us a reasonable amount of time to install basic controls such as baffles, screens and racks. Therefore, Part I.H., Special Conditions, of the Final Permit has been revised to allow the Permittee up to one year from the effective date of the permit to comply with Part I.B.2.a.(6). (Control of Solids and floatable materials in CSOs) of the Final Permit as is it applies to outfall 042. Should the Permittee encounter unanticipated difficulties in timely complying with this requirement, it may contact EPA's ECAD to discuss compliance assistance.

It is unclear from the above comment how inadequate solids and floatables controls at outfall 042 would preclude the Permittee from complying with the requirements of Part I.B.3.c. of the Draft Permit, which prohibits discharges to the combined wastewater collection system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material, during wet weather when CSO discharges may be active. Therefore, Part I.B.3.c. of the Final Permit remains unchanged from the Draft Permit.

Comment 7

NMC Documentation: In section I.B.3.a, the permit states: *"The Permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the following controls plus other controls the Permittee can reasonably undertake as set forth in the documentation."*

SWSC understands that as a CSO permittee, it must comply with the NMC requirements of the National CSO Policy. However, the draft permit states that requirement in a way that improperly adds to what is required under the policy.

The parts that are underlined above have no legal authority. The NMC are clearly laid out in the CSO policy, but here EPA appears to be adding to them, and to be doing so in a vague way, leaving SWSC to guess at what additional steps are required to comply. The first underlined term, "or as subsequently modified to enhance the effectiveness of the controls," seems to imply that SWSC has some obligation to "enhance the effectiveness" of the steps that it is taking to meet the NMCs. Beyond the fact that "enhance the effectiveness" is a vague term that is defined nowhere in the permit or in EPA regulations or guidance, EPA has no authority to require this. Similarly, the concept of "other controls the Permittee can reasonably undertake" is completely undefined and vague, and EPA has no legal authority to require SWSC to take any such steps. Both of the underlined clauses should be deleted from the permit language.

SWSC requests that EPA provide a description of "the documentation provided to the EPA and MassDEP." Once this documentaiton is identified, the SWSC requires an opportunity to review the contents and determine whether implementation of the NMCs is appropriate and feasible with respect to its contents.

The second sentence of paragraph 3.a. states: *"must include the following controls…"* Please note that there are no additional items following this statement, or as a subset of Part 3.a.

Finally, SWSC cannot agree to implement the NMCs in accordance with documentation that may be "subsequetly modified" (in documentation which is yet to be identified). SWSC is not in a position to confirm, prior to having the opportunity to review any future modifications, that the modifications are feasible, attainable or technically appropriate.

Request: SWSC requests that EPA delete the underlined clauses in this language ("or as subsequently modified to enhance the effectiveness of the controls" and "plus other controls the Permittee can reasonably undertake"). Please specifically identify the "documentation provided to EPA and MassDEP," and identify "the following controls" or remove the sentence; allow SWSC an opportunity to examine and comment on "the documentation provided to EPA and MassDEP" prior to its inclusion in a final permit; remove references to compliance with future (unseen) modifications.

Response 7

The National CSO Control Policy, which was adopted into the CWA, clearly establishes the nine minimum controls as the required technology-based limitations for CSOs and establishes that documentation produced by the permittee shall be the basis for determining the appropriate implementation level of the controls.

The "documentation" referenced in Part I.B.3.a. of the 2017 Draft Permit refers to the SWSC's *NMC Program* (April 1997 and updated April 2010)[41], which describes how the Nine Minimum Controls are to be implemented. For clarification, EPA notes that the Permittee has submitted documentation of the implementation of the NMCs, in accordance with NPDES Permit No. MA0103331 (the "2009 CSO permit"), and not the NMC program itself, as submittal of the NMC program was not a permit requirement. Therefore, EPA acknowledges that documentation of the implementation of the NMCs has been submitted and is under review by EPA and MassDEP.

[41] Should the Permittee wish to review their NMC program, EPA directs them to the NMC Program that was referenced in the Annual CSO and CMOM Report, dated March 2018, that was submitted by the SWSC to EPA. Specifically, Section 1.1 of the report states: "*This report is intended to meet the CSO-related reporting requirements in the SWSC's NPDES Permit*…." "*In addition, the report documents the on-going implementation of the SWSC's NMC's program…. The NMC program consists of appropriate and cost-effective best management practices that make up the EPA-specified NMCs, which have been integrated into the SWSC's CSO Control Program*". Further, Section 1.2., Regulatory Background, cites the "*SWSC's NMC Program Document, April 1997 and updated April 2010*".

Given the intent of the CSO Control Policy, which includes bringing permittees with CSOs into compliance with CWA goals by applying a flexible approach to CSO control through NPDES permitting, EPA anticipated that modification of SWSC's NMC program may be necessary to reflect current conditions and to determine whether it remains appropriate. This is reflected in the language in Part I.B.3.a. of the Draft and Final Permits, which is structured in such as way so as to allow for an adaptive approach to be taken towards implementation of the NMCs as continued progress is made towards achieving the CSO controls identified in the LTCP, particularly in the event that such controls are deemed unfeasible or if alternative controls are identified which would result in greater reductions in CSO discharges than those which were originally selected. Subsequent modifications of the Permittee's program to implement the NMCs would be made by the Permittee and submitted to EPA and MassDEP. This approach recognizes the Permittee's understanding of its own processes and how to best implement the NMCs, including adjustments that may be necessary during the permit term. Likewise, the language regarding "other controls" references measures the Permittee identifies as appropriate for implementing the NMCs. Thus, the language underlined and objected to by the commenter above will remain in the permit as it is consistent with and derived from the CSO Policy itself, it does not add any additional "minimum controls," and provides the Permittee with appropriate flexibility to implement the NMCs in accordance with its expertise and knowledge of its facility.

The second sentence in paragraph three of Part I.B.3.a. of the Draft Permit, which states "must include the following controls" has been clarified in the Final Permit to read as "must include the controls identified in Part I.B.3."

The nine minimum controls are outlined in 40 CFR Part 122. Section I.B.3.a merely states that if the nine minimum controls in 40 CFR Part 122 are modified (through proper rulemaking procedures), then the SWSC will be subject to the modified provisions in 40 CFR Part 122. Any other controls that the SWSC may implement are discretionary. EPA notes that the nine minimum controls are, by definition, minimum control measures that may be expanded upon from permit to permit.

Comment 8

Monthly Inspection Requirement: In section I.B.3.b, the permit requires that each CSO structure/regulator, pumping station, and/or tide gate be inspected at least monthly to ensure they are in good working condition and adjusted to minimize combined sewer discharges.

The following concerns are noted:

a) Not all of the items noted above are accessible. For example, some of the outfalls are submerged, and some of the regulators are not accessible.

b) "Adjusted to minimize combined sewer discharges" is vague language and not implementable. How would this level be determined? Also, there are circumstances when flows discharged from the CSO should not be minimized, such as a downstream sewer break, equipment failure, severe weather that would otherwise cause backups in the system, times when flow to the SRWTF must be limited, or other such occurrences when the ability to discharge increased flows through a

CSO is necessary in order to protect human health and prevent upstream SSOs and back-ups into homes and businesses.

Request: SWSC requests that the inspection requirement section be modified as follows: "To the extent feasible, each accessible CSO structure/regulator, pumping station, and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted so as to perform at the level and function intended."

Response 8

With the exception of the inspection frequency, the requirements in Part I.B.3.b. of the Draft Permit which pertain to inspections of each CSO structure, regulator, pumping station and/or tidegate, are identical to those contained in Part I.A.2.a. of NPDES Permit No. MA0103331 (which has been incorporated into NPDES Permit No. MA0101613). As such, inspections of such structures should have been occurring on a regular basis in accordance with NPDES Permit No. MA010331. To date, EPA has not been made aware of any conditions which would preclude SWSC from conducting these inspections. This fact notwithstanding, the language in Part I.B.3.b. of the Final Permit has been modified to read as (note, modified language in italics): "Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to ensure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). *For any structure that is inaccessible, a description of the conditions which preclude the inspection from taking place shall be recorded and shall be included with the annual inspection certification that is sent to EPA and MassDEP*, as required by this section…"

With respect to the Permittee's concern regarding the provision in Part I.B.3. which requires Each CSO structure/regulator, pumping station and/or tidegate to be "...adjusted to minimize combined sewer discharges", the Permittee should include in its inspection documentation a description of any measures taken to ensure that CSO discharges are minimized. The commenter's suggestion that "adjusted to minimize combined sewer discharges" be replace with "so as to perform at the level and function intended" would create more ambiguity as it would remove the stated intention of the CSO control system which is to minimize CSOs.

Comment 9

Quantification of Discharges through CSOs: Section I.B.3.e. of the draft permit contains specific records which must be kept regarding quantifying the flows from all CSOs, including hours of discharge, volume in gallons of discharge, National Weather Service precipitation data, and cumulative precipitation per discharge event.

The following comments are offered:

a) SWSC objects to the extensive and over-reaching nature of EPA's determination of NMC number 9: "Monitoring to effectively characterize CSO impact and the efficacy of CSO controls."

While recording CSO events is necessary to comply with the NMC policy, additional data collection such as hours of discharge, volume of discharge, and the National Weather Service precipitation data will result in excessive costs to SWSC, and are requirements that go far beyond those necessary to comply with the NMC, which EPA has repeatedly qualified as "low cost measures."

Section 1-7 of the NMC guidance document specifically states that, *"The NMC are controls that…do not require significant engineering studies or major construction, and can be implemented in a relatively short period…"*
While EPA may have required the extensive monitoring in this draft permit with the mistaken assumption of continuous flow metering being present, please know that flow meters currently installed in the Springfield collection system are temporary in nature, and are used solely to characterize flows throughout the system to inform and calibrate the models used for the IWP implementation. EPA recognizes that flow metering is a component of the IWP characterization, and not a requirement of the NMC (see NMC guidance document page 10-1: *"This minimum control is the precursor to the more extensive characterization and monitoring efforts conducted as part of the LTCP…"*)

The placement of these flows meters was not intended to accurately measure each and every overflow event at each of the individual 23 CSO locations, but rather their placement was specific to the modeling and analysis required under the IWP. The contract covering the use of the flow meters will expire October 2020, and most of the flow meters are anticipated to be removed at that time.

Since flow metering within the Springfield system will be shortly discontinued, and the continued use of flow meters would be an excessive and burdensome cost, SWSC requests that CSO monitoring be required in the manner that is prescribed in the NMC guidance document.

Specifically, EPA guidance as detailed in the NMC guidance document prescribes the following levels of monitoring as being in compliance with the National CSO Policy:

- Page 10-1: *"The ninth minimum control involves visual inspection and other simple methods to determine the occurrence and apparent impacts of CSOs."*

- Page 10-2: *"The municipality should record the number of CSO overflows at as many outfalls as feasible…Large systems should work with the NPDES permitting authority to select a percentage of outfalls that represent the entire drainage area and sensitive locations."*

- Page 10-2: *"Monitoring of flow and quality at the level necessary to calibrate models and/or estimate pollutant loadings is addressed in EPA's…'Combined Sewer Overflows-Guidance for Long Term Control Plan' and may be <u>beyond the intended scope of minimum control monitoring."</u> (emphasis added).*

- Page 10-2: *"In cases where a calibrated model of the CSS exists (or when one becomes available) model projections may be used to determine the frequency and location of overflow events."*

- Page 10-3 *"The following measures can be applied to detect overflows;…visual inspection…a chalk mark…wood blocks...mechanical counting device…"*

Request: SWSC has developed a model to predict CSO overflow events with respect to rainfall. In accordance with the above EPA guidance, SWSC requests that CSO events (see definition of event below) be recorded on DMR submittals in accordance with the model predictions. In the event that model predictions are no longer acceptable to EPA, SWSC requests the option to use a variety of CSO activation recordings such as the EPA-approved methods of wood blocks, chalk lines, and mechanical counting devices, as well as any flow meters that may be available.

b) In addition to the above comments, this section of the draft permit also requires that *"cumulative precipitation per discharge event shall be calculated."*

SWSC requests that EPA define the term "event." SWSC suggests that language previously approved by EPA be used:

> *In a hydraulically connected system that contains more than one CSO outfall, multiple periods of overflow from one or more outfalls are considered one overflow event if the time between periods of overflow is no more than 24 hours without a discharge from any outfall.*

Request: Define "event" using the above-noted EPA definition.

c) SWSC presently has four rain gauges, which are electronically connected to the SWSC, located within critical areas of the combined sewer system. The nearest National Weather Service (NWS) rain gauge is located more than 20 miles away from the combined sewer service area. It does not represent precipitation conditions in the combined sewer service area, especially during summer thunderstorm events, where the NWS station could record no rain while a localized high intensity thunderstorm event in the combined sewer service area could cause CSOs activation at multiple locations. SWSC requests that SWSC's rain gauges be approved for the use of calculated cumulative precipitation.

Request: Allow the use of SWSC current rain gauges to calculate cumulative precipitation.

Response 9

Chapter 10 of the Nine Minimum Control Guidance, Monitoring to Characterize CSO Impacts and the efficacy of CSO Controls, discusses the implementation of NMC #9 (Monitoring to effectively characterize CSO impact and the efficacy of CSO controls) (*Combined Sewer Overflows Guidance for Nine Minimum Controls*, EPA May 1995 [EPA 832-B-95-003]). This discussion states that this minimum control is a starting point and that extensive monitoring be conducted as part of the LTCP. The minimum control should

develop information on the frequency of overflows at individual points in the system. The Guidance recommends the gathering of basic data, such as date and time of overflow events, total daily rainfall, as well as information regarding the duration and magnitude of overflow events, as this information can enhance the implementation of CSO controls and can enable measurement of the effectiveness of particular control measures.

It is unclear from the above comment how the requirement in Part I.B.3.e. of the Draft Permit to report hours of discharge, volume of discharge, and National Weather Service precipitation data will result in excessive costs to SWSC, as this is already being implemented in accordance with the NPDES permit that was issued to the Permittee in 2005.

See also Response 43 below for discussion of comments regarding direct monitoring.

In recognition of the need for additional time to validate and refine CSO data that is collected through direct measurement, the requirement to report CSO discharge data with monthly DMRs has been removed from Part I.B.5. of the Final Permit. This data shall be included in the Annual Report that is submitted in accordance with Part I.B.4. EPA notes that CSO annual reports shall be submitted as NetDMR attachments. The Final Permit has been modified to reflect these changes.

With regard to the request to define "event," EPA's Combined Sewer Overflows Guidance for Permit Writers (1995) contains the following definitions:

"**Combined Sewer Overflow Event** - The discharges from any number of points in the combined sewer system resulting from a single wet weather event that do not receive minimum treatment (i.e., primary clarification, solids disposal, and disinfection, where appropriate). For example, if a storm occurs that results in untreated overflows from 50 different CSO outfalls within the CSS, this is considered one overflow event."

"**Precipitation Event** - An occurrence of rain, snow, sleet, hail, or other form of precipitation. Precipitation events are generally characterized by parameters of duration and intensity (inches or millimeters per unit of time). This definition will be highly site-specific. For example, a precipitation event could be defined as 0.25 inches or more of precipitation in the form of rain or 3 inches or more of precipitation in the form of sleet or snow, reported during the preceding 24-hour period at a specific gaging station. A precipitation event could also be defined by a minimum time interval between measurable amounts of precipitation (e.g., 6 hours between the end of rainfall and the beginning of the next rainfall)."

The SWSC may submit additional information to EPA (i.e., such as information regarding the time it takes for storm-related flows to pass through the collection system and treatment facility) to consider for including specific time frames in the above definitions.

CSO Guidance for Permit Writers at G-1. Additionally, the CSO Policy states "an overflow event is one or more overflows from a CSS as the result of a precipitation event that does not receive the minimum treatment specified [in the Policy]." 59 Fed. Reg. at 18692.

Accordingly, in order to provide further clarification, a "discharge event" has been defined in Part I.B.3.e. of the Final Permit as "The discharges from any number of points in the combined sewer system resulting from a single wet weather event that do not receive minimum treatment (i.e., primary clarification, solids disposal, and disinfection, where appropriate)." "Precipitation-related" includes rainfall, snowfall, and snow melt. This is consistent with the CSO Policy, which states that it applies "to all CSSs that overflow as a result of storm water flow, including snow melt runoff (40 CFR Section 122.26(b)(13))."

EPA agrees that the SWSC's rain gages are appropriate for determining cumulative precipitation. All references to the National Weather Service rain gages have been replaced with "SWSC rain gages" in the Final Permit.

Comment 10

Prohibition of DWO: In section I.B.3.d, the permit states: "Dry weather overflows (DWOs) are prohibited (NMC #5)…"

While this section does not define "dry weather," the draft permit Part I.A.1.(e) defines dry weather: *"Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and snow melt."*

It is not uncommon for a CSO to discharge with 0.1 inches of rain, depending on the intensity of the storm, and the location of the rain measurement gauge in relationship to the CSO discharge. SWSC objects to this definition of dry weather, particularly since the measurement of snow melt is not clearly defined or determined. It may be that during a sunny, warm winter day, a significant amount of snow melt could trigger a CSO discharge.

SWSC cannot at this time determine that a CSO event would not be triggered by 0.1 inches of rainfall, relative to intensity and duration and in combination with a snow melt event.

Request: SWSC requests that EPA remove the definition of "dry weather" located in Part I.A.1.(e) of the draft permit, to avoid any confusion as it relates to DWOs.

Response 10

Although EPA recognizes that discharges from CSOs are, in part, dependent on storm intensity, and that the proximity of rain gages to the CSO outfalls may or may not indicate the exact rainfall amount which would trigger a CSO discharge, it is necessary to define "dry weather" in the context of a combined collection system, which conveys both sanitary wastewater and stormwater to a POTW.

The CSO Control Policy defines dry weather flow as "flow in a combined sewer that results from domestic sewage, groundwater infiltration, commercial and industrial wastewaters, and any other non-precipitation related flows [e.g., tidal infiltration). [*National CSO Control Policy,* 59 Fed. Reg. 18689 (1994). Precipitation-related includes rainfall, snowfall, and snowmelt (EPA notes that the permit doesn require snowmelt to be measured, only its presence or absence be noted). The definition of dry weather, as defined in Part I.A.1.(e). of

the Draft permit, (i.e., any calendar day on which there is less than 0.1 inches of rain and no snow melt") is consistent with the CSO Control Policy and its implementing regulations. This definition remains unchanged in the Final Permit. To clarify the CSO requirements in Part I.B.3., the same definition has been added to Part I.B.3.d. of the Final Permit.

Comment 11

Address Pump Stations in the Permit: In the current CSO NPDES permit (MA 010331), SWSC notes that five pumping stations are identified in Attachment B as follows:

Discharge No.	Location
030	Liberty Street Pumping Station
031	Canton Circle Pumping Station
032	Carew Street Pumping Station
040	Tiffany Street Pumping Station
050	Indian Orchard Pumping Station

Attachment B states: *"Discharges of wastewater from any other point source, including the pumping stations listed above (Attachment B) are not authorized by this permit and must be reported in accordance with Part II.B.4 (General Requirements – Bypasses) of this permit."*

SWSC notes that the draft permit has eliminated the listing of these five pumping station locations. While SWSC recognizes the inclusion of named bypass locations does not authorize the bypass, and does not provide any additional regulatory relief in the event of a bypass, SWSC requests the named locations remain in the permit to provide a more meaningful understanding of the Springfield collection system and of historic locations of bypasses.

Request: SWSC requests the five named pumping stations be retained in the new, combined NPDES permit. SWSC understands that the prohibition of discharge language will continue to be associated with these locations.

Response 11

The list of pumping stations that was included as Attachment B to NPDES Permit No. MA0103331 that was issued in 2000, was provided for informational purposes. These are not permitted discharges, and as such, have not been included in the Final Permit. However, the above comment, including the list of pump stations, is hereby incorporated into the Administrative Record.

Comment 12

Prohibition of Septage:

a) Prohibition of Acceptance during Secondary Bypass: In the draft permit page 5 of 24, footnote 3 states: *"The Permittee shall not accept septage during any calendar day in which a bypass of secondary treatment is anticipated."*

This is a concern for the following reasons:

SWSC is not aware of any legal, regulatory or plant performance basis to include this requirement in the draft permit. Please provide such a basis so that SWSC can critically examine the need for this requirement.

This represents an absolute prohibition of an activity, based upon the "best guess" of treatment plant operation regarding a future weather event. Meteorologists, who study the weather and are paid to predict the weather, are often incorrect; therefore, the expectation that a treatment plant operator can predict future weather events to the extent that he/she can predict the intensity and duration of a rain event's impact to require secondary bypassing is unreasonable.

The SWSC has reviewed plant performance on wet-weather days when septage is received, and determined that the acceptance of septage does not impact the ability of the SRWTF to meet effluent limitations and maintain compliance with water quality standards. Further, all septage is received at a designated septage receiving facility, where screening and grit removal are performed prior to conveyance to the treatment facility.

The prohibition of septage receiving will create very real environmental challenges in that disruptions to septage receiving schedules and the need to turn away septage haulers has the potential to create an environmental hazard as homeowners and businesses will be unable to have their tanks pumped at critical times, the hauler may not have the ability to store the septage until the plant is able to accept it, and this creates an environment of unpredictability for waste haulers.

Request: Since no regulatory basis has been provided for this requirement; SWSC's plant performance is not impacted by septage during wet-weather events; all septage receives screening and grit removal; and all secondary bypass flows receive screening, grit removal, primary treatment and disinfection, SWSC requests that the language pertaining to the prohibition of acceptance of septage during secondary bypass in footnote 3 be deleted.

b) Prohibition of Septage to the Combined Collection System: Part 3.c, page 11 of 34, states: "Discharges to the combined system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active."

Since wastewater (separate as well as combined) typically contains floatable material, SWSC objects to the inclusion of "or containing floatable material" in this section. Such a permit requirement is unreasonable as there is no way to practically manage such discharges into the combined systems through sanitary sewer connections.

Request: Since no regulatory basis has been provided for this requirement; SWSC's plant performance is not impacted by septage during wet-weather events; all septage receives screening and grit removal; and all secondary bypass flows receive screening, grit removal, primary treatment and disinfection, SWSC requests that the language pertaining to the prohibition of septage to the combined collection system be deleted.

Response 12

EPA disagrees that the prohibition of septage during a bypass of secondary treatment is environmentally unnecessary. The high concentrations of pollutants in septage discharged to the Connecticut River without secondary treatment could pose significant environmental and public health concerns. As such, the intent of Footnote of the Draft Permit is to minimize any negative impacts from septage received during periods when flows may not be receiving secondary treatment. EPA recognizes that the septage receiving practices employed at the SRWTF are such that potential negative impacts from septage being received when flows bypass secondary treatment are minimized because SWSC can hold septage in its dedicated septage receiving facility, if necessary, to prevent septage from bypassing secondary treatment during a wet weather event. In recognition of these practices, and to clarify the intent of Footnote 3, the Final Permit has been modified to read as follows:

> The Permittee shall not add septage to the waste stream at the treatment plant during activation of the secondary treatment bypass.

Regarding the concern expressed in the above comment with respect to the prohibition of discharges to the CSS which may contain "floatable materials" when CSO discharges may be active, Part I.B.3.c. of the Draft Permit, EPA recognizes the comment that the Permittee cannot manage such discharges from some sanitary sewer connections, specifically domestic sources. This permit provision is the minimum implementation level for complying with NMCs #3 (review and modification of the pretreatment program to assure CSO impacts are minimized), #6 (Control of solid and floatable materials in CSOs), and #7 (pollution prevention programs that focus on contaminant reduction activities). While the Permittee may be limited in its ability to control the addition of floatable materials from domestic discharges to the sanitary sewer, such is not the case for commercial and industrial sources. Control of the discharges from these latter sources may be implemented through the Permittee's pretreatment program. Part I.B.3.c. of the Final Permit has been changed to clarify that the prohibition does not apply to domestic discharges to the sanitary sewer system as follows:

> Except for discharges from domestic sources to the sanitary sewer system, discharges to the combined system of septage, holding tank wastes, or other material, which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active.

Comment 13

Operation and Maintenance: SWSC notes that both SWSC and the six co-permittees are required to comply with draft permit Part D "Operation and Maintenance of the Sewer System." Items of concern are as follows:

a) To the extent feasible, the permit should identify which of the seven permittees (SWSC and six towns) own which treatment works. Owners of named collection systems, pumping stations, outfalls, regulators, catch basins, etc., should be identified in the final permit. This will not only

help to identify responsible entities, it will also provide valuable guidance for future compliance actions that EPA may choose to take, so that the appropriate responsible party may be known.

b) Maintenance Staff: The draft permit requires that "adequate staff" shall be provided. Adequate staff is not defined in the permit, nor can a meaningful definition be determined. As per MassDEP requirements at 314 CMR 12.04(4), SWSC currently completes a biennial staffing report, which details staffing levels. The submission of the biennial staffing report should be sufficient.

c) Preventative Maintenance Program: "The permittee and co-permittees shall each will (sic) *maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure."* Even the best maintained systems may experience unexpected failure. It is suggested that the language be modified as follows:

"The permittee and co-permittees shall each maintain an ongoing preventative maintenance program with the goal to prevent overflows and bypasses….

d) Infiltration/Inflow: Part D.5.b.(6) *"The permittee and co-permittee shall each… (require) 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."* This requirement is not enforceable or practical for the following reasons:

1) In the event of a flow-related violation of the treatment plant's effluent limitations, in what manner would EPA determine the extent and liability of each (or all) of the six named co-permittees? How would EPA determine which town's I/I program was insufficient and the cause of a wet-weather plant effluent violation? How would EPA determine the violation was actually due to I/I? It is obvious that a correlation of controlling I/I from seven municipalities (six co-permittees and the City of Springfield) is not feasible, practical or enforceable.

2) The service agreement between SWSC and the six co-permittees provides that flows from the customer towns be "capped" at identified levels. Further, EPA guidance provides that a town may determine whether it is economically more feasible to remove the I/I or treat the I/I.

   EPA has historically defined excessive infiltration/inflow as the *"quantities of I&I which can be economically eliminated from a sewer system as determined in a cost-effectiveness analysis-that compares the costs for correcting the I&I conditions to the total costs for transportation and treatment of the infiltration/inflow."*

   Note that EPA Region I uses this definition in its June 2014 publication entitled: "Guide for Estimating Infiltration and Inflow."

3) MassDEP already has a robust program for I/I analysis at 314 CMR 12.00, which requires all sewer authorities to submit an I/I analysis or I/I plan on or before December 31, 2017, consistent with MassDEP's Guidelines for Performing Infiltration/Inflow Analyses and Sewer System Evaluation Surveys (Guidelines). More specific requirements are located at 314 CMR 12.04, which provides for a comprehensive and detailed I/I program, including detailed requirements for combined sewer systems and all systems contributory to combined systems.

Request: SWSC requests the permit requirements reflect that conformance with MassDEP 314 CMR 12 will satisfy the I/I portions of this permit.

e) Collection System Mapping: Within 30 months of the effective date of this permit, the permittee and co-permittees shall each prepare detailed and extensive collection system mapping. Please provide the regulatory authority for this request, as well as the level of detail of this request. If the requirement is retained, SWSC requests the following modifications:

- Mapping is required of all sanitary sewers and manholes. Please revise this language to state, "All sanitary sewer extensions in the public-right-of way."

- Where the requirements mention information such as pipe diameter, date of installation, type of material, distance between manholes, interconnections, etc., please revise this language to include "to the extent feasible."

- Please allow 36 months to comply with this requirement to allow sufficient time to do procurement and provide a meaningful work product.

Response 13

EPA responds to the concerns raised in the above comment in the manner in which they appear as follows:

With respect to the commenter's suggestion to identify (in the permit) which Co-Permittee owns their respective portion(s) of the collection system, the information submitted in accordance with Part I.D. of the Final Permit by each Co-Permittee will provide this information, and may be used to identify which Co-Permittee owns and operates their respective portions of the collection system in future permits. Given their knowledge of municipal infrastructure and boundaries, the Permittee and Co-Permittees are in the best position to delineate the reach of their collection systems.

It is unclear what the commenter intends with the reference to a "staffing report". The Massachusetts regulation cited in the comment, 314 CMR 12.04(4), requires wastewater treatment facilities develop a staffing *plan* and submit it to MassDEP for approval every two years. A staffing plan that meets the requirements of 314 CMR 12.04(4) would also satisfy the requirement in Part I.D.5.b(3) of the Final Permit presuming that the plan includes information regarding collection system operation and maintenance. Assuring that there is adequate staffing to operate and maintain the sewer system is a critical component of

effective collective system management, as described in EPA's guidance for sanitary sewer collection system operation and maintenance.[42] The permit does not define "adequate staff", as this is specific to each Permittee and Co-Permittee, but "adequate" is a word in common usage whose ordinary meaning (i.e., satisfactory or acceptable in quality or quantity) is sufficiently clear as to reasonably guide compliance with the requirement. The permit requires the Permittee and Co-Permittees to (1) determine their staffing needs to ensure the proper operation and maintenance of their respective wastewater collection systems; and (2) determine how their operation and maintenance program will be staffed. This information is to be provided in the Collection System Operation and Maintenance Plan that is submitted in accordance with Part I.D.5. of the Final Permit. The biannual staffing report referenced in the comment may be submitted as an appendix to the O& M plan to satisfy the permit requirement relating to staffing levels, assuming the staffing levels described therein are, in the Permittee's determination, adequate.

With respect to the commenter's request to modify the language in Part I.D.2. (Preventative Maintenance Program), the preventative maintenance program is intended to prevent unauthorized discharges (i.e., overflows and bypasses) that are caused by malfunctions of the sewer system infrastructure. Given the importance of this provision to compliance with the permit and attainment of the Act's goals, EPA believes it should remain a clear and enforceable condition of the permit and should not be weakened through the introduction of precatory or subjective terms. Additionally, an "unexpected failure" (i.e., one not contemplated by a reasonable preventative maintenance plan, or one that occurs despite implementation of a reasonable preventative plan), would not appear to place the Permittee in an unreasonable position from the standpoint of enforcement. Part I.B.2. of the Final Permit remains unchanged from the Draft Permit.

The scope of the requirements in Part I.D.5.b.(6). of the Draft Permit (pertaining to Infiltration and Inflow (I/I)) is limited to the Permittee and Co-Permittees' submittal of a description of their respective programs for preventing and controlling I/I. While EPA acknowledges the difficulty in attributing flow-related violations at the treatment plant due to I/I to a specific municipality, the development and implementation of a program aimed at preventing and controlling I/I to the collection system is critical to ensure that I/I related effluent violations and unauthorized discharges do not occur. The information submitted in accordance with Part I.D.5.b.(6). of the Final Permit will provide the regulatory agencies with the necessary information for evaluating the magnitude of I/I into the collection system, and to inform future permit requirements.

With respect to efforts undertaken in accordance with State requirements, EPA acknowledges and supports that the Permittee is already engaged in preventative maintenance of the sewer system and activities to reduce I/I. EPA agrees that current and on-going work related to the requirements in the Part I.D. may be included in the O&M Plan. The SWSC's current and ongoing activities may satisfy the Final Permit requirements if they address each of the

[42] EPA, *Guide for Evaluating Capacity, Operation, and Maintenance (CMOM) Programs at Sanitary Sewer Collection System,* EPA 305-B-05-002, January 2005, available at: https://www3.epa.gov/npdes/pubs/cmom_guide_for_collection_systems.pdf

elements listed in Part I.D.2-3. EPA evaluates compliance based on the conditions set forth in the Final Permit.

With respect to the commenter's concerns regarding Collection System Mapping requirements contained in Part I.D.4. of the Draft Permit, it is well established that permit writers enjoy broad authority under the CWA and regulations to prescribe municipal data collection and reporting requirements. *See* CWA § 308(a)(A), 33 U.S.C. § 1318(a)(A) (specifying that permittees must provide records, reports, and other information EPA reasonably requires); CWA § 402(a)(2), 33 U.S.C. § 1342(a)(2) (requiring permittees to provide data and other information EPA deems appropriate); 40 CFR § 122.41(h) (permittees shall furnish "any information" needed to determine permit compliance); 40 CFR § 122.44(i) (permittees must supply monitoring data and other measurements as appropriate); *see also, e.g., In re City of Moscow*, 10 E.A.D. 135, 170-71 (EAB 2001) (holding that EPA has "broad authority" to impose information-gathering requirements on permittees); *In re Town of Ashland Wastewater Treatment Facility*, 9 E.A.D. 661, 671-72 (EAB 2001) (holding that CWA confers "broad authority" on permit issuers to require monitoring and information from permittees). The mapping, O&M planning, and annual reporting requirements readily fall within the bounds of these broad provisions. The commenter should be aware that the Board has upheld collection system and mapping provisions in *In re Town of Concord Dep't of Pub. Works*, 16 E.A.D. 514, 543-45 (EAB 2014).

The comment to restrict sewer system mapping to "All sanitary sewer extensions in the public-right-of way owned by the SWSC or the co-permittees" has not been included in the Final Permit. This would not provide an accurate representation of the complete collection system, as it would exclude sewers that are not located beneath road way (*i.e.*, public rights of way).

Regarding the pipe diameter, date of installation, type of material, etc., EPA agrees that some information may be infeasible to obtain. Therefore, this subpoint of the Final Permit (Part I.D.4.(k).) has been updated to include "to the extent feasible." However, if certain information is determined to be infeasible to obtain, a justification must be included along with the map. If EPA disagrees with the assessment, it may require the map to be updated accordingly. EPA reserves the right to return to the original formulation in the next permit cycle if it determines that the Permittee's justifications were inappropriate and/or inadequate.

Regarding the request for 36 months to comply with this mapping requirement, the comment does not provide any justification for the need for an extended schedule for compliance, and EPA does not agree that additional time is needed to fulfill these requirements. In EPA's experience, municipalities have typically not have had an issue with meeting this requirement. To the extent there are issues that create obstacles to meeting the deadline, the Permittee can of course approach EPA's ECAD to discuss modes of compliance assistance (this is generally true for all the compliance schedule-related issues raised in the comments). Notably, given EPA's determination above regarding information that is infeasible to obtain, the need for additional time to comply is even more diminished.

Comment 14

Monitoring and Reporting: The draft permit, Part I.I., Item 2 (page 21 of 24), states: *"Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR."*

This language fails to address what timeframe reports may be submitted on Net DMR, merely that such a submission would be timely.

Request: SWSC requests that the language be revised to reflect that a report is considered timely if it is submitted electronically on the month following the initial report due date.

Response 14

The language in Part I.I.2. of the Final Permit has been modified to clarify that a report that is submitted electronically as a NetDMR attachment will be considered timely if it is submitted to EPA using NetDMR with the next DMR due following the particular report due date specified in this permit.

Comment 15

Collection System Operation and Maintenance Plan: Regarding draft permit page 15 of 24, Part D.5.a and page 16 of 24, Part D.5.b, both containing reporting and other requirements relative to the operation and maintenance plan for the collections system, SWSC has the following comments:

Part (a) requires the submission of a report that provides a description of the collection system management goal, staffing information management, and legal authorities. In addition, it requires a list of pump stations, recent studies and construction activities, and a plan for the development of a comprehensive operation and maintenance plan.

Six months is an insufficient amount of time to research, analyze, describe and report on these numerous items, particularly for any co-permittees who may not have done this in the past. In addition, the permittee and co-permittee each have its own procurement process that require board, City/Town council or meeting, and/or public work committee for approval of funding, preparation of request for proposal to select consulting firm, negotiation of contract with selected firm to start the work. This process typically takes 9-12 months. Therefore, SWSC requests that 18 months be allowed for compliance with this condition.

Part (b) requires that a complete and comprehensive Operation and Maintenance (O&M) Plan be completed, implemented, and submitted to EPA and MassDEP within 24 months. As above, this is a tremendous undertaking requiring an extensive amount of time and resource, particularly for any co-permittees who do not already have the prescribed O&M plan. In addition, the permittee and co-permittee each have its own procurement process that require board, City/Town council or meeting, and/or public work committee for approval of funding, preparation of request for proposal to select consulting firm, negotiation of contract with selected firm to start the work. This process typically

takes 9-12 months. Therefore, SWSC requests that 36 months be provided for the completion and implementation of this plan.

Request: SWSC requests that 18 months be provided for the completion of section (a) and 36 months be provided for the completion of the O&M plan under section (b).

Response 15

EPA believes 6 and 24 months is a reasonable amount of time to comply with Parts I.D.5(a) and (b), respectively, of the Draft Permit. EPA has been including these Capacity, Management, Operation and Maintenance (CMOM) requirements in municipal permits in Massachusetts for more than 10 years and permittees and co-permittees have been able to fulfill these requirements within this timeframe, utilizing available resources and expertise. In EPA's experience, these types of plans generally have not necessitated lengthy procurement processes or significant reliance on outside consultants or other experts. These plans are also intended to be iterative and improved upon and further developed from permit cycle to permit cycle. Therefore, the Permittee and Co-Permittees should provide the best available information within the timeframes designated in the permit and Part I.D.5 is unchanged in the Final Permit. Any current and on-going operation and maintenance-related work that has been completed or is in progress that meets the requirements in Part I.D. may be included in the O&M Plan.

Comments Related to Plant Effluent and Monitoring Issues

Comment 16

Pre-treatment: The draft permit page 19 of 24, section I.G (Industrial Users and Pretreatment Program), states: *"Within 120 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."* Since SWSC's procurement process includes board approval for funding, preparation of request for proposal to select consulting firm, negotiation of contract with selected firm to start the work. This process typically takes 9-12 months. SWSC believes 120 days is an entirely insufficient time for SWSC to prepare a technical report to EPA regarding the need to revise local limits.

In addition, this section also requires that, *"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."* This is similarly an insufficient amount of time to complete such an analysis.

Request: SWSC requests that 18 months be provided for SWSC to prepare a technical evaluation analyzing the need to revise local limits, and that an additional 18 months be provided to revise local limits, if needed.

Response 16

The technical evaluation required by Part I.G.1. of the revised Draft Permit simply consists of completing and submitting the form (Attachment C [Reassessment of Technically Based Industrial Discharge Limits]) that was included as an attachment to the permit along with a concise explanation that based on the reassessment, there either is or is not a need to revise local limits. EPA's permitting staff has conferred with its compliance division, and in EPA's experience with other municipal permittees, this amount of time has proven sufficient to complete this task. The needs assessment should largely be within the expertise of and draw upon the knowledge of the SWSC treatment plant operators and staff. The deadline for completing the reassessment of technically-based industrial discharge limits (Attachment C) in the Final Permit remains unchanged from the Draft Permit.

EPA agrees that more time than what was proposed in the revised Draft Permit may be needed to revise and or develop and finalize local limits, should this be necessary. Therefore, the Final Permit has been revised to provide 18 months to complete any necessary revisions and submit them to EPA for approval.

Comment 17

***E. Coli* Monitoring Requirement:** The draft permit page 3 of 24, Part I requires compliance with *E. Coli* limits for the first time. While SWSC has no objection to the change in pathogen criteria from fecal coliforms to *E. Coli*, SWSC requests a period of time to review plant performance relative to *E. Coli*, adjust disinfection levels if needed, and better understand plant performance under all weather conditions, prior to this new limit becoming effective.

Request: SWSC requests that a compliance schedule of 18 months be provided prior to the new *E. Coli* limits becoming effective.

Response 17

EPA agrees that a compliance schedule is warranted, given that this is a new limit. The Permittee has not provided any justification for why, specifically, 18 months is required to comply with the limit. Under NPDES regulations, schedules must lead to compliance "as soon as possible." 40 CFR § 122.47(a)(1). The commenter acknowledges that the inclusion of the *E. Coli* requirement will not require any upgrade to the treatment plant, which might have warranted an extended compliance schedule, but instead will only entail operational adjustments. The Final Permit has been revised to provide a one-year compliance schedule that will allow the Permittee to observe and analyze plant performance under a full range of weather conditions—a primary concern of the commenter—and during this time, to adjust and optimize treatment. The fecal coliform limits that were in the 2000 permit will remain in effect until the *E. coli* limits become effective. Additionally, the Final Permit includes *E. coli* reporting requirements until the new limit goes into effect.

Comment 18

Total Residual Chlorine Monitoring: The draft permit, page 6 of 24, footnote 8 requires the minimum level (ML) for total residual chlorine (TRC) as 20 ug/L (0.02 mg/L). Further, the draft permit states: *"This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater. Method 4500 CL-E and G. One of these methods must be used to determine total residual chlorine."*

a) With respect to Method 4500 CL-E (Low-Level Amperometric Titration):

1) In theory, Low-Level Amperometric Titration can be used to measure chlorine concentration at the required 0.02 mg/L level. However, a ML for TRC cannot be established in the low level (0.02 mg/l) range because one cannot obtain a certified, ready-made standard at that low level. According to Standard Methods, the minimum reporting level must be set to a concentration at or above the lowest standard used in the analysis.

2) Nevertheless, SWSC is aware of laboratories that have attempted to confirm the reproducibility of this method in the 0.02 mg/l range. Significant issues were identified in obtaining reproducible results, and in fact, so much difficulty was observed in New Jersey that New Jersey Department of Environmental Protection is not requiring this method.

b) With respect to Method 4500 CL-G (Colorimetric):

1) According to Standard Methods, the proposed method has *"…a minimum detectable concentration of approximately 0.01 mg/L under ideal conditions. Normal working detection limits typically are higher."* The estimated detection limit, as stated by the manufacturer (Hach) of the colorimeter, is 0.02 mg/L. According to the August 19, 2014 EPA federal register (490009), that gave guidance on using sufficiently sensitive test methods (SSTM), the "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the detection limit. Typically, MLs are three to five times the detection limit. Clearly, the reporting limit should not be equal to the minimum detection limit.

2) Attempting to verify the accuracy of a standard made at 0.02 mg/L within the required ± 10% of the actual value is impossible. Because the meter only reports values in ±0.01 mg/L increments, any value between 0.015 mg/L and 0.024 mg/L (or ± 25% of the actual value) would result in a reported value of 0.02 mg/L. To properly verify the accuracy, one must use a standard of 0.10 mg/L (which would result in an acceptable range of 0.09 to 0.11 mg/L).

3) The lowest certified ready-made standard that can be purchased is 0.10 mg/L. All other standards are made by diluting a certified standard in the 25-30 mg/L range. Creating a standard through dilution introduces further uncertainties into the

verification process. SWSC is aware of a laboratory that performed several validation tests by diluting a standard to 0.060 mg/L (or three times the estimated detection limit). The readings from the handheld colorimeter were not within 10% of the standard. Further refinement of the DPD Colorimetric Method may be needed to achieve reliable results in the 0.06 mg/L range.

4) In accordance with the Federal Sufficiently Sensitive Test Method Rule, CWA at 40 CFR Parts 122 and 136, *"An applicant can demonstrate that, despite a good faith effort to use a method that would otherwise meet the definition of 'sufficiently sensitive' the analytical results are not consistent with the QA/QC specifications for that method, then the Director may determine that the method is not performing adequately and the applicant should select a different method from the remaining EPA approved methods."*

5) Given the proposed TRC effluent limits of 0.26 and 0.46 mg/l, there is no reason to require a ML as low as 0.02 mg/l.

Request: SWSC requests that the ML for TRC be modified to 0.1 mg/l. This provides a sufficiently sensitive ML in order to determine compliance with the lowest limit of 0.26 mg/l, yet is high enough to avoid concern over the ability of either method to accurately read results at lower concentrations.

Response 18

EPA agrees that the requirement to achieve a minimum level no greater than 20 µg/L for total residual chlorine (TRC) is not necessary in this case as a minimum level higher than that would be sufficiently sensitive to measure compliance with the effluent limit. Therefore, this requirement has been removed from footnote 8 to Part I.A.1. in the Final Permit.

Language has been added to footnote 4 to Part I.A.1. of the Final Permit to clarify that approved analytical procedures found in 40 CFR Part 136 must be used for sampling and analysis of all pollutants, including TRC, unless other procedures are explicitly specified. Permits also include requirements necessary to comply with the *National Pollutant Discharge Elimination System (NPDES): Use of Sufficiently Sensitive Test Methods for Permit Applications and Reporting Rule*.[43] This Rule requires that where EPA-approved methods exist, NPDES applicants must use sufficiently sensitive EPA-approved analytical methods when quantifying the presence of pollutants in a discharge. Further, the permitting authority must prescribe that only sufficiently sensitive EPA-approved methods be used for analyses of pollutants or pollutant parameters under the permit. The NPDES regulations at 40 CFR § 122.21(e)(3) (completeness), 40 CFR § 122.44(i)(1)(iv) (monitoring requirements) and/or as cross referenced at 40 CFR § 136.1(c) (applicability) indicate that an EPA-approved method is sufficiently sensitive where:

[43] Fed. Reg. 49,001 (Aug 19, 2014).

- The method minimum level[44] (ML) is at or below the level of the effluent limitation established in the permit for the measured pollutant or pollutant parameter; or

- In the case of permit applications, the ML is above the applicable water quality criterion, but the amount of the pollutant or pollutant parameter in a facility's discharge is high enough that the method detects and quantifies the level of the pollutant or parameter in the discharge; or

- The method has the lowest ML of the analytical methods approved under 40 CFR Part 126 or required under 40 CFR chapter I, subchapter N or O for the measured pollutant or pollutant parameter.

Comment 19

TSS and BOD Percent Removal: In the draft permit, Part I.A.1.(e) (page 8 of 24) states: *"The permittee's treatment facility will maintain a minimum of 85 percent removal of both the total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD5 and TSS values collected during dry weather days."*

The following concerns are noted:

a) Definition of Dry Weather: The permit does not identify where the rainfall is to be measured within the sewershed, nor how snow melt is to be calculated to determine a rainfall equivalent to 0.1 inch per day. In fact, SWSC is not aware of any method that can reliably correlate snow melt on any given day in various locations (which is subject to a number of factors) to rainfall.

   Further, and of even greater concern, is that EPA has included a rainfall amount at all. While the measurement of 0.1 inches of rain in any calendar day is one indicator of wet-weather flows at a treatment facility, SWSC finds that more often it is the intensity of the rain event itself, rather than the total quantity, which impacts treatment facility operations.

   EPA has routinely utilized the following language in New York NPDES permits:

   "…(rainfall) which causes plant flows over the permitted flow for a calendar day, the CBOD and TSS influent and effluent results for that day shall not be used to calculate the 30-day arithmetic mean value concentration limitations."

[44] The term "minimum level" refers to either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor. EPA is considering the following terms related to analytical method sensitivity to be synonymous: "quantitation limit," "reporting limit," "level of quantitation," and "minimum level." *See* Fed. Reg. 49,001 (Aug. 19, 2014).

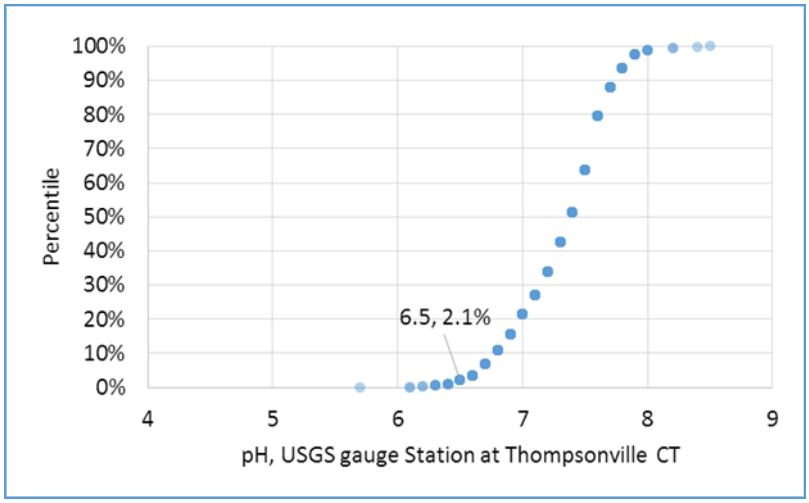
Request: SWSC requests that EPA remove the definition of "dry weather" in this provision and specify that the days excluded from the percent removal calculation, as wet-weather days are those days on which plant instantaneous (peak hourly) influent flows exceed 67 MGD.

Response 19

See Response 10 and Response 77 regarding the definition of dry weather in the Final Permit. Rainfall shall be measured by the SWSC's rain gages at locations that they deem appropriate and which will yield representative data. See also Response 9.

Comment 20

pH Effluent Limit Range: Part 1, page 3 of 24, contains a pH limit of 6.5 – 8.3 s.u.. Secondary treatment standards established at 40 CFR Part 133.102(c) allow for pH limitations to be assigned as 6.0 s.u. – 9.0 s.u. This is the range specified in NPDES permit for the nearby Holyoke wastewater treatment plant, which also discharges to the Connecticut River. The MA SWQS establishes that for class B waters, pH "[s]hall be in the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the natural background range." (314 CMR 4.05(4)(b)3). SWSC has examined ambient water quality data for pH (chart below) in the vicinity of the outfall (Connecticut River at Thompsonville, CT (USGS 01184000) and determined that the background pH ranges from 6.0 to 8.4 s.u. This high quality dataset contains 853 pH measurements over a long period of time; the range of 6.0 to 8.4 s.u. captures the 1% to 99% percentiles, providing a reliable background range.



Request: SWSC requests that allowable pH range be changed from 6.5 – 8.3 to 6.0 – 8.4 s.u, consistent with the secondary treatment standards of 6.0 – 9.0 s.u., in order to reflect measured background conditions in the receiving water.

Response 20

EPA must impose conditions that will meet applicable water quality standards. Where there are both technology- and water-quality requirements in play, EPA must impose the more stringent of the two. That the background concentrations are outside the range of the

applicable Massachusetts pH water quality criterion does not justify allowing the discharger to further contribute to an excursion of standards. Rather, that fact argues for effluent limits to be set at criteria (6.5-8.3) in order to prevent further degradation of the Connecticut River. Additionally, the commenter does not establish that the background range cited is natural background as opposed to background. But even if that condition were determined, with MassDEP's concurrence, the applicable criteria operates to compel a tightening of the acceptable range (i.e., assuming the natural background falls within 6.3-8.0 S.U., a further narrowing to ensure the effluent is within 0.5 S.U. of the background).

The data provided, which are from a sampling location downstream of the Springfield outfall in the Connecticut portion of the Connecticut River (and, therefore, are not representative of background (*i.e.*, upstream) conditions), indicate that there are some excursions beyond Connecticut's pH criteria of 6.5 to 8.0, which could argue for more stringent effluent limits, not less stringent. Since SWSC effluent sampling indicates that both monthly average and daily maximum pH levels are between 6.5 and 8.0 (within the range of the applicable criteria), EPA finds that SWSC is not contributing to this downstream excursion from Connecticut's pH criteria.

The pH effluent limits at the Holyoke Water Pollution Control Facility are actually 6.0 to 8.3 and are based on site-specific considerations, including a higher dilution factor, and therefore are not applicable to the SWSC discharge.

The commenter also does not explain how such a relaxation of the pH limit would accord with anti-backsliding requirements of the Act. With limited exceptions, none of which appear relevant here, effluent limitation in reissued permits must be as stringent as in the previous permit.

For these reasons, the pH limit range in the Final Permit remains unchanged from the draft.

Comment 21

Influent 24-Hour Composite Sampling: The draft permit, on page 3 of 24, requires 24-hour composite sampling for both BOD_5 and TSS. Footnote 6 further describes the sampling as: *"A 24-hour composite sample will consist of at least twenty-four (24) grab samples taken during one consecutive 24 hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow."*

Currently, SWSC uses four (4) samplers at the influent structure, one each for the Agawam forcemain pipe, West Springfield forcemain pipe, York Street forcemain Pipe, and the Main Interceptor Pipe. Due to the nature of the current system, there is not adequate mixing in the influent structure to obtain a representative sample without using four individual samplers.
Each sampler takes a fixed sample amount every 15 minutes into a 5-gallon jug. From each 5-gallon jug, a set amount of combined sample is further combined to form a representative influent sample. The amounts are: Agawam forcemain: 220 mL; West Springfield forcemain: 220 mL; York Street forcemain: 490 mL; and the Main Interceptor: 1,070 mL.

In order to provide "at least twenty-four (24) grab samples…either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow" would be excessively burdensome, and likely infeasible due to the current influent structure design. In order to provide samples that are both continuously timed and flow proportional, SWSC would need to purchase an additional 4 samplers (8 total) and have four samplers timed and four samples with a flow proportional signal, and then compare the results between the two. Even if SWSC could configure such an arrangement, the sampling process is overly burdensome and not necessary to provide a representative sample.

SWSC believes that a timed flow sample is a representative sample, and a flow proportional sample at this time is both unnecessary and infeasible.
6 months

Request: SWSC requests that EPA allow the current method of a timed flow sample to be considered a representative sample.

Response 21

Although the approach for the collection of a composite sample of the influent that is proposed in the above comment appears reasonable, more information relative to the derivation of the volumes described in the comment is needed for EPA to evaluate the representativeness of this method of sample collection. Additionally, a description as to how the Permittee will ensure that this method of sample collection is representative should be documented in the Permittee's sampling plan and submitted to EPA for further consideration. A provision has been added to footnote 6 in Part I.A.1 that allows the permittee up to six months from the effective date of the Final Permit to either submit this information to EPA for further consideration, or, alternatively, to comply with the method for collecting a composite sample of the influent specified in the permit.

Comment 22

Total Nitrogen Monitoring Frequency: In Part 1.A.1, page 4 of 24, EPA should clarify that total nitrogen (TN) reporting is a calculation, not an additional analyte for SWSC to analyze. TN is simply the sum of Nitrate + Nitrite plus total Kjeldahl nitrogen, both of which are already required to be analyzed weekly in the draft permit.

Average monthly load should be specified to be equal to the average monthly concentration multiplied by the average monthly flow. Maximum daily load should be specified to be equal to the maximum load on the days that concentrations were analyzed (i.e., concentration on that day multiplied by daily flow on that day). In addition, while SWSC's current and draft permit require that flow be reported on the DMR as a 12-month rolling annual average, the appropriate flow to be used when calculating a monthly load is the specific month flow of the time period being monitored. This needs to be noted in the permit.

Request: SWSC requests that footnotes be added to clarify that TN is a calculation, as described above, and to clarify the definitions of average monthly load and maximum daily load. Specifically,

clarify whether monthly load calculations shall be based upon the average monthly flow for the month in question or upon the 12-month rolling annual average.

Response 22

As there is no requirement to report the maximum daily total nitrogen load, no additional clarifications have been added regarding calculating it.

Part I.A.1., footnote 9, of the Draft Permit has been modified and divided into two footnotes in the Final Permit to clarify how total nitrogen concentration (whether maximum daily or average monthly) and average monthly load values are to be calculated and reported, as shown below:

10. Total Kjeldahl nitrogen, nitrite nitrogen, and nitrate nitrogen samples shall be collected concurrently. The results of these analyses shall be used to calculate both the concentration and mass loadings of total nitrogen

    (total nitrogen = total kjeldahl nitrogen + total nitrate nitrogen + total nitrite nitrogen)

    The total nitrogen loading values reported each month shall be calculated as follows:

    Total Nitrogen (lbs/day) = [(average monthly total nitrogen concentration (mg/l) * total monthly influent flow (Millions of Gallons (MG)) / # of days in the month] *8.34

11. The total nitrogen limit is an annual average mass-based limit (lb/day), which shall be reported as a rolling 12-month average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months.

    Report both the rolling annual average and the monthly average each month.

    See Part I.H., Special Conditions for total nitrogen optimization requirements.

Comment 23

Sampling Program: In the draft permit page 5 of 24, footnote 4 states:

"A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report. Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP."

While SWSC has no particular objection to providing EPA and MassDEP with a sampling schedule, nor with the requirement to append the DMR with correspondence at any time the routine protocol is not followed, the need for EPA and MassDEP to approve such a deviation is problematic.

First, SWSC is not aware of any regulation, law or regulatory guidance that governs the standards against which EPA and MassDEP would review the deviation from sampling protocol. Second, SWSC must be allowed the flexibility to modify sampling times based upon best professional judgement at the time of sampling, without the need of the regulator's pre-approval.
Finally, while SWSC has no objection to providing an explanation as to the circumstances surounding a deviation from sampling as an attachment to the DMR, the requirement that EPA and MassDEP approve the deviation is problematic. The plant operator would only deviate from the sampling plan in the event of critical and significant need, that he/she will determine based on best professional judgement at the time of the sample. It is not acceptable for EPA or MassDEP to potentially determine a sample invalid weeks or months after the fact. In the event EPA or MassDEP believes the deviation from the routine sampling was not substantiated, SWSC should be notified of the reason, in writing, and advised to avoid the situation in future sampling events.

Request: SWSC requests that the language be revised as follows:

"A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report. ~~Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP~~."

Response 23

EPA has broad authority under the Act to impose appropriate conditions in an NPDES permit that are rationally related to implementing the objectives of the Act, in this case, to ensure that the data collected to ensure compliance with permit limitations and achievement of water quality standards is representative. This routine sampling requirement, and its underlying rationale, was recently upheld by the Board. *See In re City of Lowell*, NPDES Appeal 19-03, slip op. at 78-79 (EAB June 29, 2020), 18 E.A.D. __. Due to the presumably time-sensitive nature of circumstances which might warrant *occasional* deviations from the routine sampling program (i.e., in the event of critical and significant need based on the operator's best professional judgement), advanced approval from EPA and MassDEP is not necessary. EPA has removed the following statement from footnote 4 to Part I.A.1. of the Final Permit: *Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP* and has replaced it with the following language*: A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month*.

Comments Related to Total Nitrogen TMDL Implementation Issues

Comment 24

Total Nitrogen Optimization Benchmark: In Part I.H.1.a, page 20 of 24, the permit states: *"The Permittee shall continue to optimize the treatment facility operations relative to total nitrogen ('TN') removal through continued ammonia removal, maximization of solids retention time while maintaining compliance with BOD and TSS limits, and/or other operational changes designed to enhance the removal of nitrogen in order to maintain the annual average mass discharge of total nitrogen at less than the existing mass loading of 2,279 lbs/day."* On pages 19-21 of the Fact Sheet, it is stated: *"Invitation for Public Comment on Three Options for Addressing Nitrogen Discharges from the Springfield Regional Wastewater Treatment Facility."*

The permit provides three potential options, as described in the Fact Sheet, for maintaining compliance with the nitrogen targets established by the December 2000 Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound (LIS TMDL). Of those three options, the Clean Water Act (CWA) only authorizes EPA to require Alternative 2. EPA's proposed application of an existing loading estimate as a new benchmark target is completely without technical or regulatory justification.

Request: SWSC requests that EPA incorporate Alternative 2 into the final NPDES permit at Part I.H.1.a as follows. "The Permittee shall continue to operate the treatment facility such that compliance with ammonia, BOD and TSS limits is maintained, while at the same time optimize nitrogen removal process to achieve an annual average benchmark concentration of 8 mg/L total nitrogen." [Alternative 2] The technical and regulatory bases for this request is provided below.

Basis for Comment

The SRWTF discharges into the Connecticut River. SRWTF's existing permit requires monitoring for nitrogen with report only "limits" for ammonia, nitrite and nitrate, and total Kjeldahl nitrogen. EPA records that from 2012 to 2016, SRWTF's annual TN load averaged 2,279 lbs/day, ranging from 1,650 lbs/day to 2,543 lbs/day. As part of the LIS TMDL, EPA established a baseline nitrogen loading for "out-of-basin" point sources discharging into the Connecticut River. The LIS TMDL defines "out-of-basin" to mean outside of states that border the Long Island Sound; with regard to the Connecticut River, "out-of-basin" means the State of Massachusetts, Vermont and New Hampshire. The LIS TMDL establishes a wasteload allocation (WLA) for out-of-basin point sources discharging into the Connecticut River basin that represents a 25% reduction from the 1990 baseline nitrogen loading.

Summary of LIS TMDL as it Applies to Draft SWSC Permit

Nitrogen is not the cause of any impairment identified in the Connecticut River. As EPA states in the permit Fact Sheet, pages 18-19, the basis for the proposed regulation of TN is the LIS TMDL; the nitrogen-driven eutrophication impacts in the Long Island Sound are driving the proposed reductions in nitrogen at SRWTF. As EPA describes, the Connecticut Department of Energy and Environmental Protection and New York Department of Environmental Protection developed the LIS TMDL to address the problems associated with excessive nitrogen loadings in the LIS. In

accordance with the CWA, the LIS TMDL establishes TN WLAs for in- and out-of-basin sources. Those out-of-basin point sources include wastewater treatment facilities discharging into the Connecticut, Housatonic, and Thames Rivers. For out-of-basin wastewater sources, the LIS TMDL requires a 25% reduction in the TN loading baseline established during the promulgation of the LIS TMDL.

The LIS TMDL baseline for out-of-basin TN wastewater loadings in the Connecticut River was 21,672 lbs/day. The allocation of TN load to out-of-basin wastewater sources (based on a 25% reduction from the baseline) equals 16,254 lbs/day. That target remains unchanged, as the LIS TMDL is still effective and has not been modified or redeveloped. As early as 2004 to 2005, the Connecticut River achieved more than a 25% aggregate reduction in TN wastewater loadings. Indeed, the estimated 2004 to 2005 TN wastewater loading to the Connecticut River was 12,836 lbs/day (15% less than the allowable TMDL load).

Section 303(d) of the CWA requires states to develop a TMDL management plan for waterbodies containing water quality limited segments [33 U.S.C. § 1313(d), (e)]. The TMDL first estimates the assimilative capacity of the waterbody relative to a particular pollutant. The TMDL then allocates that assimilative capacity among point (WLAs) and non-point pollutant sources (load allocations), taking into account natural background levels and a margin of safety (40. CFR § 130.7). Permitting authorities then develop permit limits for point sources that are consistent with the WLAs for each point source (Id).

The permittee understands EPA's objective in achieving greater nitrogen reductions in order to address the eutrophication issues afflicting the LIS; however, the permit limitations for out-of-basin point sources, like SRWTF, must be based on the WLA for the Connecticut River established by the LIS TMDL. Beyond the fact that the SRWTF achieved an annual average of 2,279 lbs/day for TN during certain years, EPA identifies no statutory or regulatory justification for applying that loading benchmark. In other words, EPA has identified no rational relation between the 2,279 lbs/day loading benchmark derived from the 2012 to 2016 monitoring data and the WLA for the Connecticut River, which out-of-basin point sources achieved over a decade ago. Accordingly, the CWA does not authorize the imposition of the proposed 2,279 lbs/day loading benchmark in the permit.

Analysis of Proposed Permit Requirements Relating to Nitrogen

The permit currently contains a loading benchmark of 2,279 lbs/day. EPA ostensibly bases this loading benchmark on the TMDL target for the Connecticut River (Fact Sheet, pages 19–20). However, EPA itself estimates that the 2,279 lbs/day loading benchmark for SRWTF will result, when combined with the other out-of-basin wastewater loads, in an estimated wastewater loading to the Connecticut River of 14,467 lbs/day. This estimated loading represents a 33% reduction from the baseline of out-of-basin wastewater TN loadings to the Connecticut River (Fact Sheet, page 20, Table 5). The LIS TMDL, however, only requires a 25% reduction from the 21,672 lbs/day baseline established for out-of-basin wastewater loadings of TN to the Connecticut River. Plainly, the CWA does not authorize EPA to require that SRWTF achieve a 33% reduction from the baseline established by the 2000 LIS TMDL. Rather, the LIS TMDL established, through proper procedure, a 16,254 lbs/day target, for which SRWTF's "report only" requirement has been more than sufficient.

As described below, SWSC is already in compliance with nitrogen TMDL requirements, and there is no potential for it to exceed the TMDL requirements given its current level of treatment. There is therefore no justification for EPA to impose new requirements for TN, nor is there a technical or regulatory basis to require that SWSC maintain its existing mass loading level.

The TMDL target for out-of-basin wasteloads for the Connecticut River is 16,254 lbs/day of TN, which is 25% lower than the TMDL baseline load of 21,672 lbs TN. Note that the TMDL baseline was based on loading conditions in 1990, when SRWTF was a conventional activated sludge plant (extended aeration process) with no biological nutrient removal capability and discharged an effluent with total nitrogen around 19.6 mg/L[45]. Attachment B includes a summary of SRWTF's original design, upgrade and operation history. In anticipation of the TMDL, SWSC upgraded SRWTF in 1995 to incorporate nitrogen removal. As a result, and as shown in Attachment C, Statistical Analysis of SRWTF Effluent TN Concentrations, SRWTF consistently discharges TN concentrations less than 10 mg/L, which represents a decrease of approximately 50% compared to TMDL baseline conditions.

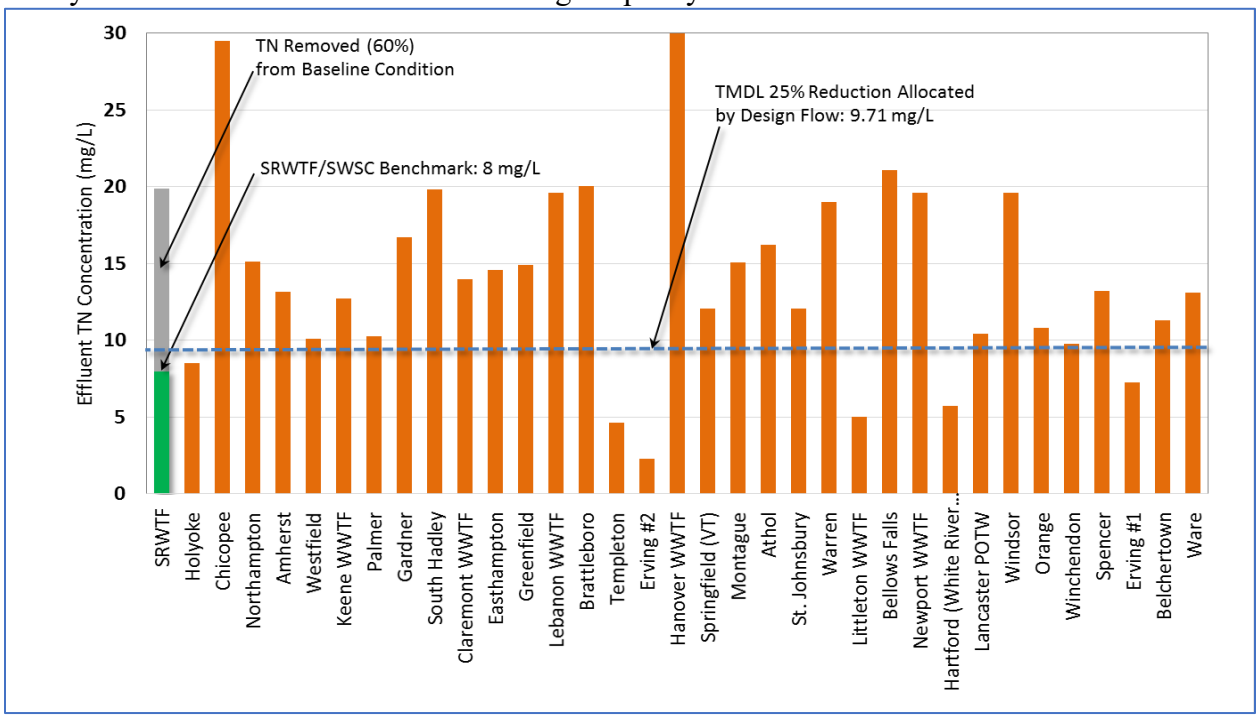
The revised loading estimate based on 2004-2005 DMRs indicated that the TMDL target for out-of-basin TN wasteloads from the Connecticut River had already been satisfied, with actual loads 15% below the allowable load. However, this does not mean that out-of-basin facilities will not be required to remove additional nitrogen. Indeed, if all the out-of-basin treatment plants were discharging their maximum permitted (design) flows at their existing TN effluent concentrations, the TMDL target would be exceeded by more than 30%. In order to maintain compliance with the TMDL, wastewater facilities in the Connecticut River basin that have not upgraded to remove nitrogen will need to do so as their actual flows increase closer to their maximum design flows.

Having noted this, the EPA's proposed use of existing loading estimate as some kind of new target is completely without technical or regulatory justification. Such a flawed approach would punish those facilities, like SRWTF, that have already upgraded and exceed required load reductions; it would not be justified to expect the same percent reduction from an upgraded plant as from a plant that had not upgraded. It is arbitrary and capricious to force a "benchmark" similar to an effluent limitation, or somehow interpret or extrapolate requirements set forth for SRWTF, in a manner creating significant, binding, regulatory consequences that would unfairly burden SWSC's ratepayers.

Instead, the TMDL combined wasteload allocation for the out-of-basin dischargers in the Connecticut River basin must be allocated among individual dischargers. While EPA certainly has some latitude in allocating the allowable TMDL wasteload among individual dischargers, the fairest and most straightforward way to do this is based on design flows. The TMDL-based calculated load for SRWTF would be 5,429 lbs/day, which is SRWTF's share of the allowable wasteload of 16,254 lbs/day based on its share of the total design flow (67 MGD out of 201 MGD). Based on its design flow of 67 MGD, the effluent concentration associated with SRWTF's individual wasteload would be 9.71 mg/L TN. To optimize biological nutrient removal at SRWTF, an optimization benchmark of 8 mg/L TN would ensure compliance with the annual average TMDL threshold concentration of 9.71 mg/L or the associated TMDL load of 5,429 lbs/day. There is no technical or regulatory basis to

[45] EPA's estimate of non-BNR plant based on an average of discharge concentration from conventional activate sludge plant in Massachusetts.

require SWSC to perform additional TN removal optimization, since it is already discharging considerably less TN than is allowable by the TMDL. The figure below shows the effluent TN concentrations of major out-of-basin dischargers to the Connecticut River basin, in order based on design flow, in comparison to the allowable annual average TN concentration of 9.71 mg/L at design flow capacity. SRWTF is one of only a few dischargers with effluent TN concentration that will satisfy the allowable TMDL load at its design capacity.



Average Annual Effluent TN Concentration from Out-of-Basin POTWs Tributary to the Connecticut River with Design Flow Greater than 1.0 MGD.

Evaluation of Proposed Optimization Requirements

EPA requires that SRWTF *"continue to optimize operations to meet a benchmark based on the current annual average TN load of 2,279 lbs/day"* based on the annual average TN load from 2012 to 2016 (Fact Sheet, pages 19–20). Further, certain provisions of the CWA authorize EPA to require certain control measures and proper operation and maintenance, but the statutory scheme does not authorize EPA to prescribe how a plant operator must achieve those requirements. Here, "optimization" is not an applicable control measure or operation and maintenance requirement deriving from any statutory or regulatory CWA authority.

Even if the CWA authorized the imposition of an optimization requirement, the requirement as described in the permit is impermissibly vague. EPA has not promulgated under the CWA any rule, guidance, or definition regarding what constitutes "optimization." Absent a clear statutory or regulatory directive regarding optimization, permittees have no opportunity to meaningfully comply with the requirement. For example, permittees have no guidance regarding whether or not optimization to "enhance nitrogen removal" could require additional expenditures for operation and maintenance or capital improvements. Additionally, even if SRWTF meets the permit's benchmark TN requirements, the optimization requirement still exposes the permittee to liability in the form of

potential permit violations or lawsuits from third-parties alleging that the permittee nonetheless failed to achieve some amorphous level of "optimization" or "enhanced nitrogen removal."

Ultimately, EPA has not identified, and the permittee is not aware of, any statutory or justification authority for the "optimization" requirement. The requirement both is impermissibly vague and exceeds EPA's authority where the out-of-basin point sources, including SRWTF, are already achieving the WLA for the Connecticut River.

Evaluation of Proposed Benchmark Alternatives

It is a widely acceptable practice in the wastewater treatment field that performance of process technologies is typically evaluated by effluent concentration (as opposed to effluent load) of the targeted compounds, e.g. BOD, TSS, NH3-N. Effluent TN concentration must therefore be the basis of any benchmark for performance evaluation/optimization.

Attachment D provides a literature review of design guidance, fact sheets, operation manuals and peer reviewed papers/reports. These well-established references and practices suggest that 8 mg/L TN is an appropriate effluent benchmark for the "typical" performance of BNR systems employing the Ludzack-Ettinger (LE) process configuration similar to the BNR process employed at SRWTF. Attachment D concludes the following:

> Utilizing effluent concentration (in lieu of effluent loading) as a benchmark for process performance evaluation and optimization is a technically sound approach consistent with industry standards. Based on the performance data available in the literature, it is not reasonable to expect a Ludzack-Ettinger (LE) process (currently SRWTF operates under such biological process mode) to consistently achieve an effluent concentration of lower than 8 mg/L TN because of the physical limitations imposed by its configuration. Therefore, if an optimization target of 8 mg/L TN effluent concentration is established, plants utilizing the LE process will likely require optimization to adjust operation parameters or potentially modifications to operate in different process configuration.

SWSC therefore requests EPA to select factsheet Alternative 2, 8 mg/L for inclusion as permit nitrogen special condition.

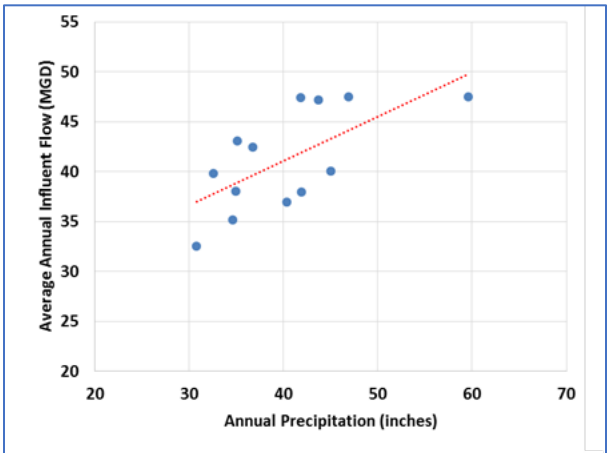
SWSC offers the following comments on the three options regarding nitrogen benchmark(s) (Fact Sheet, pages 19-21).

Draft Permit Proposal: Loading Benchmark of 2,279 lbs/day TN; No Concentration Benchmark

According to the Fact Sheet, the proposed loading benchmark was based on the current annual average TN load, which EPA calculated to be 2,279 lbs/day by averaging the TN load discharged from the facility over the last five years (2012-2016). There is no technical or regulatory basis to require that SWSC maintain its existing mass loading level, or its mass loading level during some arbitrary period. The TMDL target for out-of-basin wasteloads for the Connecticut River is 25% lower than the TMDL baseline load in 1990. In anticipation of the TMDL, SWSC upgraded its treatment plant in 1995 to incorporate nitrogen removal. As a result, SWSC consistently discharges

TN concentrations less than 10 mg/L, which represents a decrease of approximately 50% compared to TMDL baseline conditions (1990). Prior to 1995, SRWTF was a conventional activated sludge plant with very limited biological nitrogen removal capacity. SRWTF currently discharges approximately 37 to 50 MGD (average annual flow rate since 2004, as shown in Attachment E); flow is highly dependent on precipitation conditions, as shown in the figure to the right. However, it *is authorized to discharge up to its* design flow of 67 MGD. As its discharge flow increases, nitrogen load can be expected to increase proportionately. However, even at its maximum design flow, SRWTF will be discharging considerably less TN load than its share of allowable load. EPA's proposed use of an existing loading estimate as a new benchmark is completely without technical or regulatory justification, and would punish facilities, like SRWTF, that have already upgraded to remove nitrogen.

SRWTF's share of the allowable TMDL wasteload for out-of-basin dischargers in the Connecticut River basin will not be exceeded even if SRWTF were discharging at its maximum design flow of 67 MGD, as long as its effluent concentration remains below 9.71 mg/L TN. SRWTF consistently discharges at effluent concentrations below 10 mg/L TN, and would therefore not have any reasonable potential to exceed the TMDL threshold concentration of 9.71 mg/L (which is based on a long-term average) associated with allowable TMDL load. For the same reason, there is no technical or regulatory basis to require SRWTF to perform additional TN removal optimization, since it is already discharging considerably less TN than is allowable by the TMDL. Note also that a TN benchmark expressed as a load conflicts directly with the CSO control objective of maximizing flows to the treatment facility.



Correlation between Rainfall and SRWTF Influent Flow (2004 to 2016)

Alternative 1: Loading Benchmark of 2,534 lbs/day TN; Concentration Benchmark of 8 mg/L TN

EPA's first proposed alternative includes an annual average concentration-based benchmark of 8 mg/L combined with a higher annual average mass-based benchmark of 2,534 lbs/day (Fact Sheet, pages 20-21). EPA explains that the 2,534 lbs/day loading benchmark equals the maximum annual average TN load discharged from SRWTF from 2012 to 2016 (Id). EPA estimates that even this higher loading benchmark would still achieve an estimated load of 14,772 lbs/day to the Connecticut

River from out-of-basin point sources. Again, the 2000 LIS TMDL requires a 25% reduction from the 21,672 lbs/day baseline, but the 2,534 lbs/day benchmark would represent a 32% reduction from that LIS TMDL baseline. Like the proposed 2,279 lbs/day benchmark in the permit, this 2,534 lbs/day benchmark bears no rational relation to the TMDL from which it derives. In other words, if the out-of-basin point sources, including SRWTF, can continue to achieve the actual WLA of 16,254 lbs/day for the Connecticut River, EPA lacks the statutory and regulatory authority to impose more stringent TN loading benchmarks.

As stated above, there is no technical or regulatory basis to require that SRWTF maintain its existing mass loading level. Even if it were discharging at its maximum design flow of 67 MGD, SRWTF would still be discharging less TN load that its share of the allowable TN wasteload.
A benchmark concentration of 8 mg/L TN is reasonable as an annual average optimization benchmark, since meeting the benchmark would ensure that SRWTF will not have any potential to exceed the TMDL threshold concentration of 9.71 mg/L associated with its allowable TMDL load. Note again that a TN benchmark expressed as a load conflicts directly with the CSO control objective of maximizing flows to the treatment facility.

Alternative 2: No Loading Benchmark; Concentration Benchmark of 8 mg/L TN

As stated above, a benchmark concentration of 8 mg/L TN as an annual average is reasonable, since meeting the benchmark would ensure that SRWTF will not have any potential to exceed the TMDL threshold concentration of 9.71 mg/L associated with its allowable TMDL load. Furthermore, expressing the TN benchmark as a concentration rather than a load is fully consistent with the CSO control objectives. Since SRWTF is only permitted to discharge up to 67 MGD as an annual average, any concentration limit or benchmark will effectively impose a loading benchmark as well.

The second alternative would encourage a consistent level of treatment regardless of changes in flow at Springfield. As EPA acknowledges, Alternative 2 will still achieve the LIS TMDL target of a 25% reduction in TN loadings from the LIS TMDL baseline (Fact Sheet, page 21). Indeed, Alternative 2 represents the only option that EPA has statutory authority to impose, as it constitutes the only option that does not impose a nitrogen loading benchmark wholly unrelated to the LIS TMDL nitrogen targets.

Additionally, EPA acknowledges that Springfield anticipates future growth and is currently exploring the possibility of consolidating wastewater flows from other facilities throughout the Springfield area and diverting them for treatment at the SRWTF. Affording the SRWTF the opportunity to explore this possibility could achieve significantly greater reductions in nitrogen loadings to the Connecticut River than any of the proposed alternatives for this permit. Notably, other facilities in the Springfield area do not have capacity or technology to achieve the advanced required nitrogen removal that the SRWTF is designed for and currently able to achieve. In that regard, any diverted flows will receive a much higher level of nitrogen removal treatment at the SRWTF than they currently receive at surrounding facilities. The impact of reductions in nitrogen loadings from diversion of flow away from less technologically-advanced facilities in the Springfield area to the larger and more technologically-advanced SRWTF would far outweigh the impact of any increased nitrogen loadings resulting from the new diversions to the SRWTF. Expressing the

nitrogen benchmark in terms of concentration rather than load will better allow SRWFT to explore these possibilities, which would result in considerable overall load reductions within the watershed.

Response 24

See discussion in the General Response.

Comment 25

Total Nitrogen Annual Report Requirement: Part I.H.1.b, page 20 of 24 states: *"The permittee shall submit an annual report to EPA and the MassDEP by February 1st of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous calendar year. If, in any year, the treatment facility discharges in excess of 2,279 lbs/day TN on an annual average basis, the annual report shall include a detailed explanation of the reasons why TN discharges have increased, including any changes in influent flows/loads and any operational changes. The report shall also include all supporting data."*
There is no basis or justification for additional reporting requirements relating to the discharge of nitrogen loads from the SRWTF. As explained in the comment above, SRWTF has no reasonable potential to exceed its TMDL allocation for nitrogen, even if discharging at its design flow of 67 MGD. Nitrogen discharges from the SRWTF will be reported on monthly through the DMRs; additional reporting for the SRWTF would be duplicative and not justified. Instead, TN reporting should focus on comparison with the benchmark concentration of 8 mg/L on an annual average basis. [Alternative 2]

Request: SWSC requests that the following language be substituted for the draft language at Part I.H.1.b.: "The permittee shall submit an annual report to EPA and the MassDEP by February 1st of each year that documents the average annual nitrogen concentration and load discharged from the facility, and tracks trends relative to the previous calendar year. If, in any year, the treatment facility discharges in excess of 8 mg/L TN on an annual average basis, the annual report shall include a brief explanation of the reasons why TN discharges increased that particular year, including any changes in influent flows/loads and any operational changes. The report shall also include all supporting data."

Response 25

As discussed in Response 24, EPA disagrees that there is no justification for the special conditions related to optimization reporting. See also the General Response.

The language in Part I.H.1.b. of the 2017 Draft Permit was modified in the 2018 Draft Permit to read as follows:

> *"The permittee shall submit an annual report to EPA and the MassDEP by February 1st of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and*

tracks trends relative to the previous calendar year. The report shall also include all supporting data."

The revised language maintains the requirement for the Permittee to include a summary of activities related to optimizing nitrogen removal efficiencies that was included in the 2017 Draft Permit and removes the requirement for including detailed information in the event the facility discharges more than 2,279 lbs/day TN on an annual average basis. Including the information that is required by Part I.H.1.b. of the revised Draft Permit in the annual nitrogen report is critical to EPA's overall permitting approach, as well as carrying its obligations under Section 301 to ensure compliance with water quality standards in this and subsequent permitting cycles, *see e.g.,* Fact Sheet p. 21, because it will provide the regulatory agencies with information that is necessary to comprehensively assess facility operations and how they impact nitrogen removal efficiency. This information will help inform and improve future permitting actions, including by assisting EPA to fine tune optimization requirements, both at this facility and throughout the LIS watershed, some facilities in which are only subject to total nitrogen optimization requirements. Of course, this narrative condition also requires dischargers to take reasonable steps to minimize loading to LIS, which is important given that cultural eutrophication is ongoing in that water body. This language remains unchanged in the Final Permit. EPA disagrees with the assertion that the optimization condition is vague. In its common usage, optimization means act of making the best or most effective use of a situation or resource as possible. The condition provides a clear endpoint and is sufficient to apprise a person of ordinary intelligence of their obligations. While EPA could have crafted a more prescriptive standard, EPA opted for a requirement that provides the Permittee with a reasonable amount of flexibility in achieving it, so that it can leverage its knowledge of plant operations and capabilities.

See also discussion in General Response.

Comment 26

Future Nitrogen Limits: On page 21 of the Fact Sheet, EPA includes a section discussing "Future Nitrogen Limits." In this section, EPA indicates that "more work must be done" to address nitrogen, dissolved oxygen, and related water quality issues in Long Island Sound. To address those issues, EPA appears to be pursuing a multi-step process, starting with establishing "thresholds" for certain parts of the Sound watershed, then doing new allocations of TN loadings where necessary, possibly culminating in new water quality-based permit limits. Since those thresholds, allocations and limits have not yet been developed, SWSC has no specific issues to raise in these comments regarding this section. As a general matter, though, SWSC wants to emphasize that in taking any of the listed possible actions, EPA (and the relevant states in the Sound watershed) will have to follow established procedures that are required under the Clean Water Act and implementing regulations. Specifically, the agencies will need to adopt numeric water quality standards for parameters of concern, assess waters to determine if they meet those standards, include waters on the State 303(d) lists if they do not meet the standards, develop new TMDLs or modify existing TMDLs to address the impairments, and finally, issue water quality-based permit limits that are based on the allocations in the TMDLs. SWSC intends to be an active participant in all of those processes, and it is critical

that the agency efforts be transparent and open for any and all stakeholders to play an active and constructive role.

Response 26

EPA appreciates the SWSC's concerns regarding ongoing efforts to address nitrogen-related impacts to Long Island Sound and encourages the Permittee to remain an engaged stakeholder in proceedings which impact the Connecticut River and Long Island Sound Watersheds.

EPA does not understand SWSC's comment to be specific to the Springfield permit but, rather, a comment on the general structure of the CWA. Nonetheless, EPA responds as a matter of clarification that there is no regulatory basis for the commenter's assertions that EPA and the affected states must (1) adopt numeric water quality standards for parameters of concern; (2) assess waters to determine if they meet those new standards; (3) include waters on the State 303(d) lists if they do not meet the standards; (4) develop new TMDLs or modify existing TMDLs to address the impairments, and (5) issue water quality-based permit limits that are based on the allocations in the TMDLs prior to including a water-quality based effluent limitation in a permit. To the contrary, the relevant regulations require the permit writer to include an effluent limit for any pollutants which EPA 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, including State narrative criteria for water quality." 40 CFR §122.44(d)(1)(i)-(iii). Where a TMDL has been established, the permit writer is required to ensure that the effluent limits are "consistent with the assumptions and requirements of any available wasteload allocation" applicable to the discharger." 40 CFR §122.44 (d)(1)(vii)(B). Narrative water quality standards have the same force and effect as numeric ones. Neither inclusion on a 303(d) list or development of a new or revised TMDL are preconditions to a WQBEL upon EPA finding reasonable potential.

In accordance with the aforementioned regulations, EPA included limitations and conditions in the 2018 Revised Draft Permit and the Final Permit which are consistent with the assumptions and requirements of the 2000 TMDL for out of basin point source dischargers to the Long Island Sound watershed (See *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (CT DEP 2000), Fact Sheet p. 18, revised Fact Sheet Supplement p. 3-4, and the General Response), and that are necessary to ensure compliance with water quality standards under Section 301.

Comment 27

Annual Load Estimate 2004-2005: "In 2006, in order to facilitate the TMDL in out-of-basin NPDES permits, EPA completed an analysis of the out-of-basin point sources, using 2004-05 discharge data, to determine compliance with the TMDL requirement of a 25% reduction. As can be seen from the summary in Table 3, the total estimated loading from the Connecticut River was 13,836 lbs/day in 2004-2005. Of that amount, Springfield's annual average TN load was 1,648 lbs/day." (Factsheet Page 18,Part VII, Nitrogen, second paragraph)

Using 2004 -2005 DMR data to estimate average annual total nitrogen loading from SRWTF is incorrect base on the following reasons:

1. SRWTF DMR reported 10 sets of nitrogen data (as shown in table below) in 2004. Five (5) of the nitrogen data show 0.00 mg/L TKN which include organic nitrogen and NH3, while reported NH3 range from 0.28 to 0.55 mg/L (yellow highlighted in table below). It is wrong to report any TKN with value less than NH3.

2. Statistically speaking, average of 5 data points is inadequate to characterize average annual condition (average of 365 days). It is wrong to use 2004-2005 data for loading estimate and/or plant performance assessment.

Month	NH3	TKN	NO2	NO3	TN	Flow	Pounds
Jan							
Feb	0.32	1.12		2.11	3.23	39.9	1,076
Mar	0.42	1.40		2.19	3.59	41.1	1,231
Apr	0.55	0.00		2.51	2.51	55.4	1,159
May	0.32	0.00		3.11	3.11	48.6	1,259
Jun	0.36	1.18		2.93	4.11	41.5	1,421
Jul							
Aug	0.33	0.00		4.13	4.13	39.5	1,362
Sep	0.45	1.10		4.40	5.50	43.4	1,990
Oct	0.28	0.00		4.00	4.00	39.1	1,306
Nov	0.42	1.96		4.87	6.83	38.5	2,191
Dec	0.40	0.00		3.06	3.06	44.8	1,143
Average	**0.39**	**0.68**		**3.33**	**4.01**	**43.2**	**1,414**

Request: SWSC requests that EPA eliminate all references to 2004-2005 load of 1,648 lbs/day and acknowledge there was not enough data to characterize average annual condition for that period.

Response 27

While the valid data that were collected from 2004-2005 should not be discounted, EPA agrees that a sample size of n = 5 may not, for the purposes here, be a sufficiently robust data set to which statistical methods can be applied such that the results can be interpreted with a large degree of confidence. Additionally, it would appear that TKN results that are less than NH_3 results are unreliable. In recognition of the limitations of the data from 2004-2005, EPA

evaluated effluent data from 2012-2016 (adding an additional sixty data points), in developing the limit that was proposed in the revised Draft Permit (see Fact Sheet Supplement p. 2-3 and 2017 Fact Sheet, p. 18-21 and Attachment H). Incorporation of this additional data yields a sample size of 65, which is sufficient for characterizing the effluent.

However, as discussed in detail in Section II of the General Response, in response to comments received regarding the need for a fair and comprehensive approach for all out-of-basin discharger in the LIS watershed that is based on design flow, the Agencies developed a new approach for TN discharges. Consistent with the new approach for facilities with design flow greater than 10 MGD, the total nitrogen effluent limit for SWSC has been revised in the Final Permit to 2,794 lb/day, based on design flow of 67 MGD and 5 mg/L total nitrogen, and is no longer derived from performance data. *See* Response 24 above and General Response.

Comment 28

Erroneous Ammonia Data: The table in Factsheet Attachment H contains erroneous data (yellow highlighted) with Ammonia (not listed in the table) higher than Total Kjeldahl Nitrogen or 0 mg/L TKN. SWSC requests to replace the table with QA/QC'ed table below.

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-02-2001	36.9	0.2	3.1	2.24	5.34	1,638	1643
31-03-2001	48.7	0.9	1.84	2	3.84	1,554	1560
30-04-2001	56.33	0.5	2.26	1.9	4.16	1,948	1954
31-05-2001	44.7	0.5	2.35	1.65	4	1,486	1491
30-06-2001	42.3	0.5	1.74	1.12	2.86	1,006	1009
31-07-2001	41.57	0.7	2.94			0	0
31-08-2001	40.9	0.6	1.86	1.76	3.62	1,231	1235
30-09-2001	37.4	0.0	2.08	1.18	3.26	1,013	1017
31-10-2001	40.25	0.4	1.95	1.18	3.13	1,047	1051
30-11-2001	41.3	0.5	3.18	1.23	4.41	1,514	1519
31-12-2001	40.8	0.7	6.54	3.696	10.236	3,472	3483
31-01-2002	39.1	0.8	3.63	2.3	5.93	1,927	1934
28-02-2002	38.8	0.4	1.47	1.8	3.27	1,055	1058

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-03-2002	37.8	0.7	2.21	1.9	4.11	1,291	1296
30-04-2002	36.4	0.6	3.52	1	4.52	1,368	1372
31-05-2002	36.1	0.4	2.75	1.76	4.51	1,353	1358
30-06-2002	35.7	0.6	3.96	1.18	5.14	1,525	1530
31-07-2002	35.5	0.6	4.14	1.18	5.32	1,570	1575
31-08-2002	35.3	0.5	3.71	1.18	4.89	1,435	1440
30-09-2002	35.2	0.4	0.455	1.6	2.055	601	603
31-10-2002	35.2	0.6	3.93	1.26	5.19	1,519	1524
30-11-2002	35.9	0.3	2.06	1.23	3.29	982	985
31-12-2002	36.3	0.5	3	1.18	4.18	1,261	1265
31-01-2003	37.15	0.0	2.12	1.47	3.59	1,109	1112
28-02-2003	37.38	3.0	3.32	4.12	7.44	2,312	2319
31-03-2003	38.5	1.8	3.14	3.39	6.53	2,090	2097
30-04-2003	39.4	0.7	2.01	1.23	3.24	1,061	1065
31-05-2003	39.8	0.8	4.52	2.24	6.76	2,236	2244
30-06-2003	40.9	1.0	3.65	2.94	6.59	2,240	2248
31-07-2003	41.6	0.6	2.82	2.46	5.28	1,826	1832
31-08-2003	42.2	0.6	3.25	1.18	4.43	1,554	1559
30-09-2003	40.1	0.3	2.17	1.18	3.35	1,117	1120
31-10-2003	44.1	1.0	0.357	2.06	2.417	886	889
30-11-2003	44.8	0.5	2.55	1.23	3.78	1,408	1412
31-12-2003	45.8	0.5	3.2	1.23	4.43	1,687	1692
31-01-2004	46.5	0.0	3.1	2.06	5.16	1,994	2001
29-02-2004	46.6	0.3	2.11	1.12	3.23	1,251	1255
31-03-2004	45.9	0.4	2.19	1.4	3.59	1,370	1374
30-04-2004	46.2	0.6	2.51	0	2.51	964	967
31-05-2004	46.5	0.3	3.11	0	3.11	1,202	1206
30-06-2004	45.6	0.4	2.93	1.18	4.11	1,558	1563
31-07-2004	45.4	0.0	3.23	1.76	4.99	1,883	1889
31-08-2004	45.3	0.3	4.13	0	4.13	1,555	1560
30-09-2004	45.2	0.5	4.4	1.12	5.52	2,074	2081

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-10-2004	44.5	0.3	4	0	4	1,480	1485
30-11-2004	43.7	0.4	4.87	1.96	6.83	2,481	2489
31-12-2004	43.4	0.4	3.06	0	3.06	1,104	1108
31-01-2005	43.2	0.0	3.06	1.47	4.53	1,627	1632
28-02-2005	49.9	0.0	0.988		0.988	410	411
31-03-2005	44.2	0.5	3.58	0	3.58	1,315	1320
30-04-2005	44.2	0.6	2.78	0	2.78	1,021	1025
31-05-2005	44	0.3	2.17	1.18	3.35	1,225	1229
30-06-2005	43.9	0.4	2.03	2.35	4.38	1,598	1604
31-07-2005	43.8	0.7	3.78	1.6	5.38	1,959	1965
31-08-2005	43.6	1.2	4.06	3.23	7.29	2,642	2651
30-09-2005	43.2	0.7	2.12	1.6	3.72	1,336	1340
31-10-2005	45.6	0.2	2.75	0	2.75	1,042	1046
30-11-2005	47	0.9	4.24	1.6	5.84	2,282	2289
31-12-2005	47.5	0.5	4.14	1.4	5.54	2,187	2195
31-01-2006	48.9	0.2	1.78	0	1.78	724	726
28-02-2006	49.9	1.3	0.988		0.988	410	411
31-03-2006	49.7	0.5	1.95	1.76	3.71	1,533	1538
30-04-2006	48.4	1.0	2.79	1.4	4.19	1,686	1691
31-05-2006	48.7	1.6	1.57	2.52	4.09	1,656	1661
30-06-2006	49.8	1.5	1.64	2.94	4.58	1,896	1902
31-07-2006	50.6	1.7	1.18	2.65	3.83	1,611	1616
31-08-2006	51.1	1.5	3.07	2.52	5.59	2,374	2382
30-09-2006	51.3	3.3	2.22	5.54	7.76	3,309	3320
31-10-2006	49.2	0.7	2.82	0	2.82	1,153	1157
30-11-2006	48.4	1.8	0.118	3.08	3.198	1,287	1291
31-12-2006	47.5	0.3	1.81	0	1.81	715	717
31-01-2007	45.7	1.6	0.842	3.53	4.372	1,661	1666
28-02-2007	47.5	3.8	0.606	5.6	6.206	2,450	2459
31-03-2007	43.9	2.5	0.234	4.41	4.644	1,695	1700
30-04-2007	45.2	1.4	1.18	1.18	2.36	887	890

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-05-2007	44.9	1.7	0.131	2.94	3.071	1,146	1,150
30-06-2007	43.7	2.0	2.81	2.24	5.05	1,834	1841
31-07-2007	42.8	0.8	6.75	3.64	10.39	3,696	3709
31-08-2007	42.3	1.2	3.21	2.35	5.56	1,955	1961
30-09-2007	41.9	0.0	3.36	1.47	4.83	1,682	1688
31-10-2007	41.3	0.9	266	0		0	0
30-11-2007	40.4	0.8	2.1	1.54	3.64	1,222	1226
31-12-2007	39.8	0.7	2.37	2.16	4.53	1,499	1504
31-01-2008	39.5	0.8	1.79	1.29	3.08	1,011	1015
29-02-2008	41.5	0.8	2.64	1.18	3.82	1,318	1322
31-03-2008	42.5	0.7	1.86	1.18	3.04	1,074	1078
30-04-2008	41.8	0.6	2.37	1.47	3.84	1,334	1339
31-05-2008	41.7	2.3	3.08	3.23	6.31	2,187	2194
30-06-2008	41.9	0.4	3.92	2.16	6.08	2,118	2125
31-07-2008	42.6	0.5	2.46	1.79	4.25	1,505	1510
31-08-2008	43.7	0.7	2.81	1.67	4.48	1,627	1633
30-09-2008	45	0.4	3.34	2.162	5.502	2,058	2065
31-10-2008	45.6	0.7	3.38	2.35	5.73	2,172	2179
30-11-2008	46.1	1.0	2.96	1.45	4.41	1,690	1696
31-12-2008	47.6	1.0	1.73	1.37	3.1	1,227	1231
31-01-2009	48.1	0.9	3.24	2.07	5.31	2,123	2130
28-02-2009	46.7	2.3	3.19	3.49	6.68	2,593	2602
31-03-2009	45.8	0.8	3.39	1.6	4.99	1,900	1906
30-04-2009	45.1	0.8	3.79	2.31	6.1	2,287	2294
31-05-2009	44.8	0.6	5	2.45	7.45	2,774	2784
30-06-2009	44.8	0.8	4.89	3.2	8.09	3,013	3023
31-07-2009	45.1	0.8	3.28	2.5	5.78	2,167	2174
31-08-2009	44.9	0.3	4.88	1.2	6.08	2,269	2277
30-09-2009	44	0.8	2.87	0	2.87	1,050	1053
31-10-2009	43.7	0.0	2.743	2.8	5.543	2,014	2020
30-11-2009	43.3	1.7	0.78	3.4	4.18	1,504	1509

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-12-2009	43.3	10.0	0.65	10	10.65	3,833	3846
31-01-2010	42	0.6	1.3	2.5	3.8	1,327	1331
28-02-2010	37.3	1.3	1.478	2.1	3.578	1,109	1113
31-03-2010	38.1	1.2	0.67	6.7	7.37	2,334	2342
30-04-2010	42.3	0.6	3.356	1.8	5.156	1,813	1819
31-05-2010	42.2	0.7	1.5	1.5	3	1,052	1056
30-06-2010	41.7	0.3	5.82	1.7	7.52	2,607	2615
31-07-2010	40.2	0.5	2.8	2.5	5.3	1,771	1777
31-08-2010	39	0.9	2.659	2.8	5.459	1,770	1776
30-09-2010	38.5	0.6	4.42	2	6.42	2,055	2061
31-10-2010	38.3	0.2	7.569	1.1	8.669	2,760	2769
30-11-2010	38.4	1.2	2.467	2.2	4.667	1,490	1495
31-12-2010	38.1	0.9	2.059	1.5	3.559	1,127	1131
31-01-2011	37.5	0.9	1.28	2.1	3.38	1,054	1057
28-02-2011	37.3	1.2	1.478	2.1	3.578	1,109	1113
31-03-2011	38.1	4.0	0.669	6.7	7.369	2,334	2342
30-04-2011	38.4	4.8	0.273	7.6	7.873	2,513	2521
31-05-2011	39.3	4.5	0.158	6.4	6.558	2,142	2149
30-06-2011	40.4	5.0	0.354	7.1	7.454	2,503	2512
31-07-2011	41.1	1.3	3.17	2.8	5.97	2,040	2046
31-08-2011	42.1	1.0	1.986	2.1	4.086	1,430	1435
30-09-2011	43.8	1.9	0.339	2.8	3.139	1,143	1147
31-10-2011	44.9	0.4	2.363	1.1	3.463	1,292	1297
30-11-2011	46.1	0.7	2.31	2.1	4.41	1,690	1696
31-12-2011	47.4	2.0	0.445	2.4	2.845	1,121	1125
31-01-2012	48.5	7.4	0.016	7.8	7.816	3,151	3161
29-02-2012	48.7	8.2	0.455	9.6	10.055	4,070	4084
31-03-2012	47.2	3.5	0.017	5	5.017	1,968	1975
30-04-2012	46	4.6	0.884	7.2	8.084	3,091	3101
31-05-2012	45	1.0	1.766	2.5	4.266	1,596	1601
30-06-2012	44.1	2.4	0.339	3.9	4.239	1,554	1559

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-07-2012	43.6	1.1	2.173	1.9	4.073	1,476	1481
31-08-2012	43	0.0	2.266	1.4	3.666	1,310	1315
30-09-2012	41.4	1.2	2.675	1.6	4.275	1,471	1476
31-10-2012	40.2	5.1	0.92	8.1	9.02	3,014	3024
30-11-2012	38.6	10.0	1.437	13	14.437	4,632	4648
31-12-2012	37	5.6	0.84	8.4	9.24	2,842	2851
31-01-2013	36.1	7.1	0.602	9.5	10.102	3,031	3041
28-02-2013	35.7	8.3	0.393	11	11.393	3,381	3392
31-03-2013	35.7	1.1	2.848	2.1	4.948	1,468	1473
30-04-2013	35.6	1.5	1.58	2.9	4.48	1,326	1330
31-05-2013	35.7	5.6	0.433	8	8.433	2,503	2511
30-06-2013	37	0.9	3.81	2.9	6.71	2,064	2071
31-07-2013	37.8	1.1	2.31	2.9	5.21	1,637	1642
31-08-2013	38	7.5	0.545	10	10.545	3,331	3342
30-09-2013	38.1	16.0	0.23	15	15.23	4,823	4839
31-10-2013	37.9	2.8	2.64	2.2	4.84	1,525	1530
30-11-2013	37.9	0.3	4.539	2.8	7.339	2,312	2320
31-12-2013	37.9	0.4	5.444	3.8	9.244	2,912	2922
31-01-2014	38.5	1.0	0.11	2.4	2.51	803	806
28-02-2014	38.5	2.2	5.29	3.9	9.19	2,941	2951
31-03-2014	38.7	4.1	3.71	6.1	9.81	3,156	3166
30-04-2014	40	3.2	2.871	7.2	10.071	3,349	3360
31-05-2014	41	0.0	2.64	4.5	7.14	2,433	2441
30-06-2014	39.9	0.7	4.241	2.7	6.941	2,302	2310
31-07-2014	39.6	0.4	2.669	1.6	4.269	1,405	1410
31-08-2014	39.4	0.0	3.237	2.1	5.337	1,748	1754
30-09-2014	39.2	0.0	7.363	3.2	10.563	3,442	3453
31-10-2014	39.4	0.0	3.493	2.4	5.893	1,930	1936
30-11-2014	39.5	0.4	3.11	2.2	5.31	1,743	1749
31-12-2014	40	0.8	3.099	4.1	7.199	2,394	2402
31-01-2015	39.7	1.8	3.484	4.1	7.584	2,503	2511

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-02-2015	39.4	2.1	2.41	5.3	7.71	2,525	2533
31-03-2015	39.3	3.8	1.149	5.9	7.049	2,303	2310
30-04-2015	38.8	2.8	1.446	4.1	5.546	1,789	1795
31-05-2015	37.4	2.5	2.062	5.6	7.662	2,382	2390
30-06-2015	37.4	1.8	1.323	5.3	6.623	2,059	2066
31-07-2015	37.1	5.6	3.08	6.2	9.28	2,862	2871
31-08-2015	36.7	0.0	5.16	2.8	7.96	2,428	2436
30-09-2015	36.6	0.4	3.311	4.3	7.611	2,316	2323
31-10-2015	36.2	0.8	4.686	3.5	8.186	2,463	2471
30-11-2015	35.8	0.6	5.96	3.2	9.16	2,726	2735
31-12-2015	35.2	0.9	4.91	2.1	7.01	2,051	2058
31-01-2016	35	1.8	0.088	3.9	3.988	1,160	1164
28-02-2016	35.5	3.4	1.51	7.1	8.61	2,541	2549
31-03-2016	35.3	2.7	2.379	4.5	6.879	2,018	2025
30-04-2016	34.5	3.2	0.935	3.2	4.135	1,186	1190
31-05-2016	34.3	0.0	2.043	2.8	4.843	1,381	1385
30-06-2016	33.6	0.7	0.989	3.5	4.489	1,254	1258
31-07-2016	33.1	0.5	0.88	5.8	6.68	1,838	1844
31-08-2016	33.1	0.8	1.431	3.4	4.831	1,334	1334
30-09-2016	32.9	0.0	4.983	6.5	11.483	3,151	3151
31-10-2016	32.9	0.0	1.822	4.5	6.322	1,735	1735
30-11-2016	32.9	1.0	0.455	4.5	4.955	1,360	1360
31-12-2016	32.6	1.8	0.161	2.8	2.961	805	805
Existing Permit Limit	Report	Report	Report	Report	Report	Report	
Minimum	32.9	0.0	0.0	1.0	1.0	410	411
Maximum	56.3	10.0	7.6	13.0	14.4	4632	4648
Average	41.2	1.5	2.6	3.1	5.7	1924	1930
Standard Deviation	4.5	1.8	1.5	2.2	2.2	711	714
No. Measurements	163	163	163	163	163	163	163

Date	Rolling Annual Average Flow	Ammonia [as N]	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	mg/l	lbs/day	lbs/day
No. Exceedances	NA	NA	NA	NA	NA	NA	NA

Response 28

EPA notes the comment for the record. EPA did not include ammonia data in Attachment H as the ammonia measurements are not used to calculate total nitrogen. Rather, total nitrogen is the sum of the nitrate, nitrate and TKN measurements. The comment does not provide any basis for revising any particular condition of the permit, so none has been made as a result of this comment.

Administrative Items:

Comment 29

Asset Management: SWSC understands the importance of an adequate O&M plan, as contained in the draft permit Part D.b., page 16 of 24. However, even the best O&M plan will not prevent system failures, mechanical breakdown or sewer line failure if the infrastructure is beyond its useable life. For this reason, a robust asset management plan is essential.

Request: SWSC requests that EPA recognize the importance of asset management planning and include the option for the permittee and co-permittees to include asset management planning as part of their O & M manual.

Response 29

EPA agrees that asset management planning is essential for ensuring the long-term sustainability of the wastewater collection system and encourages the Permittee and Co-permittees to consider asset management as a component of their operation and management plans. While the permit includes minimum requirements for the O&M plan, there are no prohibitions against including additional information, such as asset management planning, from being included. No change to the permit was made as a result of this comment.

Comment 30

Submittal of Report Due Dates and as NetDMR Attachments. Throughout the draft permit are numerous references to annual reports and their due dates. A partial listing is shown below:

Compliance Task	**Annual Due Date**
Design Flow Compliance Report (if annual average flow exceeds 80% of design flow in a calendar year)	April 30
CSO Monthly Inspection Reports	April 30
CSO Monthly Inspection Certification	April 30
Annual Summary Report of Collection System O&M Plan Activities	April 30
Annual Report for 40 CFR Part 503	February 19
Pretreatment Program Annual Report	March 31
Nitrogen Optimization Report	February 1
CSO Abatement Report	April 30

Request: In order to manage this number of reports and requirements, to the extent feasible, SWSC requests that all annual reports share a common due date of April 30.
With respect to page 21 of 24 Part I.2, where submittal of reports shall be as NetDMR attachments, please be advised that several annual reports, or the combination of all annual reports on April 30th, may be a large file, and may not be feasible to transmit electronically.

Response 30

The date for submitting the annual Nitrogen Optimization Report has been maintained as February 1st in the Final Permit, as this date will allow for any modifications in treatment plant operations that may have been identified during the preparation of the report for the previous calendar year to be made prior to the start of the growing season. Additionally, 40 CFR Part 503 requires the February 19th deadline for submitting the annual Biosolids/Sludge Report by February 19th, and therefore, may not be changed. The date for submitting the annual pretreatment report has been changed to April 30th in the Final Permit.

The Permittee should contact EPA Region 1's ECAD for compliance assistance if it encounters difficulty in submitting files on NetDMR.

Comment 31

Attachment D Accuracy: Attachment "D" to the draft permit is a chart showing "CSO overflow events, and volume (in 1,000's of gallons), as reported by SWSC." It appears that the numbers generated are not in 1,000s of gallons, as indicated by the title. For example, 042 at SRWTF in 2016 shows that approximately 6.4 billion gallons of flow was bypassed (6,435,000 x 1,000). EPA should review this chart for accuracy.

Response 31

The notation for the CSO discharge volumes that was presented in Attachment D to the Fact Sheet (not the Draft Permit) should have been "gallons", and not "1,000's of gallons", as pointed out by the commenter. This correction is noted for the record (Fact Sheets are not modified following the public comment period).

Comment 32

Permits Superseded: In numerous locations throughout the permit and the Fact Sheet, EPA refers to the draft permit superseding the permit signed on December 8, 2000 yet fails to state that the permit also supersedes the CSO permit signed on September 30, 2009.

Request: The permit and Fact Sheet should clearly identify that both permits will be superseded.

Response 32

As pointed out in the above comment, this permit supersedes both NPDES Permit No. MA0101613, signed December 8, 2000, as well as NPDES Permit No. MA0103331, signed September 30, 2009. This correction has been made to the cover page of the Final Permit.

The clarification that the Final Permit supersedes both NPDES Permit No. MA0101613, signed December 8, 2000, and NPDES Permit No. MA0103331 is noted for the record.

Comment 33

Typographical Error: On page 14 of 24, section D.2 "Preventative Maintenance," the draft permit states: *"The permittee and co-permittees shall each will maintain an ongoing preventative maintenenace program to prevent…"*

It appears "shall each will" is a typographical error.

Request: Please revise the language as shown: "The permittee and co-permittees shall each ~~will~~ maintain an ongoing preventative maintenenace program to prevent…"

Request: SWSC requests that these terms be defined at the Federal level.

Response 33

Part I.D.2. of the Final Permit has been clarified to read as follows: "The permittee and co-permittees shall each maintain an ongoing preventative maintenance program to prevent overflows and bypasses caused by malfunctions or failures of the sewer system infrastructure".

It is unclear what terms the commenter would like to have these terms defined, or why it believes they are unclear or ambiguous. The provision is comprised of words that can be

understood using their ordinary, everyday meaning, or in the case of 'bypass,' by its federal definition at 40 CFR §§ 122.2 and 122.41(m).

Comment 34

Update Administrative Record: In the Fact Sheet page 8, Part VI, the populations listed for the customer towns is incorrect. The correct population numbers in accordance with the more recent (2010) census data are:

Springfield	154,074
Agawam	28,438
West Springfield	28,391
Ludlow	21,103
Longmeadow	15,784
East Longmeadow	15,720
Wilbraham	14,868
Chicopee	1,000

Requested Resolution: Please revise the Administrative Record to reflect the updated census data.

Response 34

The clarification provided in the above comment is noted herein and is part of the administrative record.

VI. Testimony Provided by Joshua D. Schimmel, Executive Director, SWSC, April 24, 2018

Comment 35

Thank you. Josh Schimmel, Springfield Water and Sewer Commission, Executive Director. I'd like to thank everyone for the opportunity to provide comments and for participating in the process. Public participation is critically important to us and it really provides us with insightful perspective to help inform our decision making down the road. So, you know, the process is really important to us.

Also, understand some of the comments that we have provided and will provide tonight. And later in the weeks -- we're providing these. They need to be taken into the context of our core mission which is sustainably providing safe, reliable and affordable water and sewer services to these communities, which is 33 percent of the total population of western Massachusetts.
So, we offer the following comments.

On nitrogen, we understand, as it was stated by EPA tonight, that Massachusetts is meeting the existing TMDL for nitrogen. Our plant has reduced nitrogen load by 50 percent prior to the TMDL.

And so, when the TMDL was being developed and we knew it was coming, we undertook a program to reduce our nitrogen by 50 percent.

So when that TMDL was developed, we were producing about 20 milligrams per liter. And now, we're down to 10 milligrams per liter. So, we've been ahead of the curve on many things, including nitrogen over the years.

And most importantly, we really support increased sampling at the treatment plant, as well as other treatment plants and the receiving water bodies to help better inform future rule making, such as the development of a new TMDL which we think is really important.

On blending, based upon the EPA announcement last week that a new rule making process has been initiated on blending, we feel that there should be no further restrictions or changes in the permit regarding blending in the Final Permit.

On public notification, we would ask for flexibility in developing a community specific notification program. We feel the prescriptive nature of the language does not reflect the specific needs for our community and those downstream. And we'd be happy to work with the stakeholders on that.

On the reclassification of Outfall 042 as a CSO, we would maintain that the reclassification is outside the definition of a CSO and is clearly part of the treatment works after flows enter the treatment plant.

And on the co-permittee status, as expressed in our written comments, we have concerns with the lead role obligations of the co-permittee and the commission.
Those are our comments for tonight. Thank you.

Response 35

EPA's responses to the concerns raised in the hearing testimony that pertain to co-permittees, nitrogen, public notification and the reclassification of outfall 042 are found elsewhere in the Response to Comments, including Response 1 (co-permittees), General Response (nitrogen), Response 39 (public notification), and Response 3 (reclassification of outfall 042).

With respect to blending, the comment references EPA's August 2018 announcement of public listening sessions to examine issues associated with the management and treatment of peak flows during wet weather events at publicly owned treatment works (POTWs) served by separate sanitary sewer systems. The scope of this proposed rulemaking is clearly established in the Federal Register Notice which was published on August 31, 2018. Specifically, the Federal Register Notice states that "The Environmental Protection Agency (EPA) is interested in the views of the public on possible approaches to updating the National Pollutant Discharge Elimination System (NPDES) regulations related to the management of peak wet weather flows at Publicly Owned Treatment Works (POTWs) treatment plants serving *separate sanitary sewer collection systems*" (emphasis added). 83 Fed. Reg. 44623 (August 31, 2018). Therefore, in addition to not being a final rule, this preliminary regulatory effort is not applicable to the SWSC because it owns and operates a combined wastewater collection system.

VII. Comments Submitted by Joshua D. Schimmel, Executive Director, SWSC, by Letter Dated April 27, 2018

Comment 36

Nitrogen: SWSC remains concerned regarding the manner of implementation of the Long Island Sound (LIS) Total Maximum Daily Load (TMDL) in the Permit, which has neither legal basis nor technical merit. As stated in the TMDL "the CWA (Clean Water Act) Section 303(d) requires the establishment of TMDLs that will result in the attainment of water quality standards." (p.25). Until or unless the TMDL is updated, the basis for load and wasteload allocations for total nitrogen (TN) as detailed in the TMDL, both in-basin and out-of-basin, represent the best scientific and legal approach for meeting water quality standards in the LIS.

It is important to understand that the adopted LIS TMDL requires an out-of-basin wasteload target TN reduction of 25% of the baseline load (the estimated point source loads in 1990). The out-of-basin TMDL point source load for Connecticut River basin (ConnPSTMDL) can be expressed as:

$$ConnPS_{TMDL} = BaselineLoadPS_{1990} \times (1 - 25\%)$$
$$BaselineLoadPS_{1990} = 21{,}672\ lbs/d$$
$$ConnPS_{TMDL} = 21{,}672 \times (1 - 25\%) = 16{,}254\ lbs/d$$

The adopted LIS TMDL identifies the baseline load for the Connecticut River as 21,672 lbs/day. A 25% reduction in that load equates to a target aggregate wasteload allocation of 16,254 lbs/day for point sources in the "out-of-basin" (i.e., upstream of the State of Connecticut) portion of the Connecticut River. This target load of 16,254 lbs/day remains unchanged since the TMDL was established in 2000 and approved in 2001. Unless and until a revised TMDL is duly promulgated, the SWSC's responsibility under the CWA is to comply with the current, adopted TMDL.

As early as 2004 to 2005, TN loadings to the Connecticut River were estimated to be 13,836 lb/day. This loading estimate, based on effluent data, indicated that the TMDL target for out-of-basin TN wasteload from the Connecticut River had been achieved. In fact, the TN loading to the Connecticut River from out of-basin sources far exceeded its target of 25% reduction, and in actuality achieved approximately 36% reduction over baseline levels.

Clearly the TMDL out-of-basin targets for the Connecticut River have not only been achieved but have been generously exceeded.

The above notwithstanding, the EPA here proposes to modify the identified TMDL target from the 25% reduction required by the approved TMDL, to a variety of other targets (described as three alternatives). Further, the Permit then invites the public to evaluate the technical merits of those choices, as well as to develop still more alternatives to the duly promulgated TMDL point source loading target.

We strongly object to this approach as it does not meet the requirements or intent of the Clean Water Act. Instead of requiring SWSC to maintain compliance with the 25% reduction goal, the Permit suggests three alternatives on which the public is invited to provide technical evaluation and suggestions:

1) Assign a loading benchmark of 2,279 lbs/day, based on EPA's estimate of the SRWTF's current annual average loads (using 2012-2016 data);

2) Assign a loading benchmark of 2,534 lbs/day based upon EPA's estimate of the SRWTF's maximum annual average loads (using 2012-2016 data), along with a concentration benchmark of 8 mg/L as an annual average; or

3) Assign a benchmark concentration of 8 mg/L as an annual average.

In addition, some commenters have suggested that the SRWTF receive an even more stringent annual average load of 1,648 lbs/day, based upon USEPA's estimate of SRWTF's annual average loading for the years 2004-2005. The use of this loading snapshot is inappropriate to establish nutrient loading limits, as USEPA has recognized in their preparation of the draft Permit and as referenced at the public meeting on April 24, 2018. It does not represent the most recent data available to the Agency at the time of permit renewal. Moreover, this benchmark and all of the loading benchmarks suggested by USEPA and commenters on the permit are arbitrary and are not in any way connected to the TMDL requirements or aggregate wasteload allocation for the out-of-basin point sources.

Future increases in flow to the plant, which will be realized through planned capital projects and potential expansion of regionalization, will also contribute to an increase in annual loading. SWSC's annual nitrogen load will increase as its discharge flow approaches its permitted capacity. This is not inconsistent with the TMDL, since, even at its permitted flow of 67 MGD, SWSC will be discharging less than its flow-weighted share of the allowable out-of-basin TMDL load through the Connecticut River. SWSC achieved compliance long before the 2004-2005 loading snapshot was taken. Establishing a nitrogen loading limit that does not recognize the full potential (i.e., permitted flow) of the treatment plant would be shortsighted. Utilizing a concentration benchmark, on the other hand, will allow the Commission to retain the full treatment potential of the SRWTF while still ensuring its nitrogen load remains below its share of the aggregate out-of-basin wasteload allocation for the Connecticut River basin.

SWSC strongly objects to EPA's attempt to modify the approved and adopted TMDL requirements through the issuance of a permit. In order to avoid a protracted disagreement, which would entail additional expense to our ratepayers, the SWSC is willing to accept Alternative 2 as identified in the Permit, which would impose an average annual optimization concentration benchmark of 8 mg/l as an annual average. We note that this option would ensure that SRWTF will not have any potential to exceed the TMDL threshold concentration of 9.71 mg/L, which is the concentration associated with its allowable TMDL load when discharging at its maximum permitted flow.

Further, as stated in the LIS TMDL, Section VII.F, "A critical component of phased implementation is the reassessment of management goals and actions based on new information. The LISS Phase III

Actions for Hypoxia Management also contains commitments to formally evaluate the 58.5 percent reduction target every five years." As part of that reassessment, the TMDL requires an evaluation of the progress of implementation, improvements in nitrogen removal technology and pilot projects, review of states' water quality standards and their possible revision among others. Finally, the TMDL requires "…New York and Connecticut will review and revise the TMDL based on this assessment by August 2003." Please provide the status of that review, as well as the subsequent every five-year review since adoption. We request that EPA complete the update to the TMDL. Until such an exercise is undertaken, the SWSC's responsibility under the CWA is to comply with the current, adopted TMDL.

Response 36

See General Response.

Comment 37

Reclassification of Outfall 042: SWSC affirms our objection to the reclassification of Outfall 042 from an emergency plant bypass to a Combined Sewer Overflow (CSO). EPA's National CSO Policy defines a CSO as the discharge from a combined collection system prior to the treatment plant. Since Outfall 042 is located after the Plant Inlet Structure, and after preliminary mixing of flows, Outfall 042 is clearly not a CSO.

Response 37

See Response 3.

Comment 38

Blending: In light of the April 17, 2018 News Release by EPA: "EPA Announces Effort to Update Wet Weather Regulations for Wastewater Treatment Plants," SWSC requests that there be no new restrictions in the Permit relative to operation of the secondary bypass at the SRWTF until this rule-making process is concluded.

Response 38

See Response 35

Comment 39

Public Notification Plan: Regarding the public notification plan, SWSC would like to continue to work with our communities to provide effective notification to the public and meaningful access to the status of CSO discharges. We urge EPA to provide the flexibility for us to proceed in this direction, rather than imposing the "one-size-fits-all" requirements currently contained in the draft permit.

Response 39

EPA sought to strike a balance in fashioning the draft permit requirements for the minimum implementation level for NMC #8 (Public notification to ensure that the public receives

adequate notification of CSO occurrences and impacts). As contemplated by NMC #8, the public notification plan affords the Permittee reasonable flexibility in implementing the plan to account for facility-specific concerns (e.g., logistics in obtaining and disseminating information in a timely and efficient manner given funding and staffing resources), while at the same time ensuring that important health and safety information is disseminated to the public in a timely manner. *Combined Sewer Overflow, Guidance For Nine Minimum Controls*, at 9-1 (EPA 1995) ("The measure selected should be the most cost-effective measure that provides reasonable assurance that the affected public is informed in a timely manner.".)

EPA supports the Permittee's objective of collaborating with other communities in developing a public notification plan and there is nothing in the Draft Permit that would preclude the Permittee from doing so. Part I.B.3.g. of the Draft and Final Permits establishes the minimum information that must be included in the public notification plan and does not restrict the Permittee from expanding upon these minimum requirements in order to address the specific needs of the community and/or to enhance the public notification plan. Part I.B.3.g. of the Final Permit remains unchanged from the Draft Permit.

Comment 40

Co-Permittee: SWSC remains concerned regarding the provisions relating to co-permittees as they create uncertainty surrounding roles and responsibilities within the Permit itself. This not only creates confusion in the enforceability of the Permit, but also potentially complicates the positive working relationships we currently have with our customer towns.

Response 40

EPA has clarified certain portions of the final permit to further delineate the respective roles of the co-permittees. See also Response 1.

VIII. Comments Submitted by Joshua D. Schimmel, Executive Director, SWSC, by Letter Dated October 15, 2018

Comment 41

On February 9, 2018, the Springfield Water and Sewer Commission (SWSC) submitted comments on the draft National Pollutant Discharge Elimination System (NPDES) permit (Permit), dated November 15, 2017, for the Springfield Regional Wastewater Treatment Facility (SRWTF). On April 2, 2018, SWSC submitted additional comments on the Permit to supplement our February 9, 2018 submission based upon the public hearing. SWSC takes this opportunity to submit comments on the Revised Draft Permit.

The SWSC owns and operates both the SRWTF and the combined sewer collection system, which includes 23 combined sewer overflow (CSO) outfalls within the City of Springfield. It also operates and maintains 33 pumping stations and 475 miles of collection system pipe. In addition to the named

permittee (SWSC), the Revised Draft Permit is also issued to six co-permittees: the towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham.

The SWSC has expended considerable resources to compile meaningful and constructive comments in order to provide EPA with additional information to consider in finalizing this NPDES Permit. This permit is considered to be critically important to the out-of-basin watersheds tributary to the Connecticut River in Massachusetts, New Hampshire, and Vermont. As a result of the impact on the SWSC's NPDES permit, the SWSC has closely followed EPA's Long Island Sound (LIS) Nitrogen Reduction Strategy. The SWSC has been openly critical of EPA's decision to not include the out-of-basin POTW community in its strategy development as well as EPA's failure not to require the collection of new, relevant data in determining both the out-of-basin nitrogen impacts on LIS and the effectiveness of nutrient reduction programs in New York and Connecticut.

The SWSC is re-affirming its request that the TMDL for LIS be updated before any new enforceable limits are implemented for out-of-basin POTWs. As has always been the case, the SWSC's priorities has been balancing regulatory compliance and infrastructure investment across all areas of its system, and maintaining reliable service at an affordable cost to our customers. With aging infrastructure, Combined Sewer Overflows (CSO), and now nutrients as our biggest challenges, there is no room to invest in approaches or infrastructure without proven and verifiable outcomes.

Data is the driving force in the SWSC's decision-making, unfortunately we have grave concerns that there is not enough data supporting the decision to include an enforceable Total Nitrogen limit in this permit. We see no supporting documentation from CT DEEP or others that would support moving from what was originally proposed as an optimization goal to an enforceable limit, especially given that the LIS Nitrogen Reduction Strategy implementation and findings are incomplete and the TMDL has yet to be reviewed let alone updated since 2000.

Diverting funds from aging infrastructure and CSOs to fund nitrogen reduction strategies that may not have any impact on LIS would significantly impact the SWSC's ability to provide the expected level of service and concurrently maintain regulatory compliance. For this reason, the SWSC partnered with the United States Geological Survey (8) and Massachusetts Department of Environmental Protection (MassDEP) to install monitoring equipment and sampling programs to better understand the impacts and fate of nitrogen in the Connecticut River.

To be clear, the SWSC fully supports the LIS initiative in its clean water efforts and has proposed additional financial support to gather data to make informed decisions to that effect. However, we cannot support, and our ratepayers simply cannot afford, infrastructure investment driven by outdated data and unsupported documentation as part of a NPDES Permit. This draft permit is being issued with little to no updated information for the out-of-basin tributary areas of Massachusetts, New Hampshire, and Vermont. Yet EPA is proposing to move ahead with a permit, that if applied consistently across the watershed, could result in hundreds of millions of dollars of investment in nitrogen reduction with no certainty of benefit.

The SWSC has a long history of supporting EPA initiatives, working closely with the agency on compliance issues, and being a leader in this region in collaborating with other POTWs and agencies in solving complex environmental issues. The SWSC is concerned that the Revised Draft Permit as

written is not only unsupported by relevant data, but would eliminate opportunities for innovative and regional solutions to both the nitrogen issue in LIS as well as other critical wastewater challenges.

Listed below are additional comments with respect to the Revised Draft Permit, for consideration together with our previous comments:

Response 41

EPA disagrees that there are not enough data to include a TN limit and disagrees that the TMDL needs to be revised prior to including numeric effluent limits. The Final Permit is supported by relevant data. See the General Response. EPA sees no reason why the Final Permit would eliminate opportunities for innovative and regional solutions to any issue. EPA further addresses these issues in responding to the commenter's additional comments below.

In all permitting actions, EPA uses the best information reasonably available at the time permit issuance and encourages the collection of new data and development and refinement of analytical tools to assess those data. The decision to revise the TMDL, should cause exist to do so, lies in the first instance with the States rather EPA. Upon submission of any revised TMDL by the States, EPA will review it and approve, or disapprove it. Given the enormous size and complexity of the watershed, any such revision would entail a very significant commitment of technical, legal and administrative resources over an extended period time. There have been efforts over the past decade or more to revisit, reassess and possibly refine certain aspects of the TMDL, and the States, impacted municipalities like the City of Springfield, and other stakeholders are to varying degrees pursuing these measures. EPA encourages these initiatives, while recognizing the immense complexity associated with coordinating and building consensus among the five States and dozens of communities implicated by the LIS TMDL. In the meantime, consistent with its obligations under the CWA, which require permits to be revisited at regular intervals and permit effluent limitations to be written based on the best information reasonably available at the time of permit issuance, must proceed with reasonable dispatch to address nitrogen pollution in these ecologically critical—and impaired—waters, and not forestall such efforts in anticipation of newer data, analysis or regulatory determinations that may or may not materialize. To that end, EPA has relied new data collected since the TMDL as well as studies that have been done to analyzed fate and transport of nitrogen in the Connecticut River, new analyses of point sources loadings as well as ongoing assessment of the Long Island Sound, as described in section III of the General Response.

Comment 42

Pages 12-13 of 25, Public Notification Plan (Part I.B.3.g (sub parts 1-4)): Detailed comments are provided below:

a) Submittal Date for Public Notification Plan: The January 2018 Draft Permit required submittal of the Public Notification Plan within 90 days of the effective date of the permit (EDP), with implementation required at 180 days from EDP. The Revised Draft Permit now proposes plan submittal and plan implementation both be completed at EDP+180 days.

SWSC takes exception that EPA has failed to address the issues raised in our January 8, 2018 letter. Detailed comments were provided to EPA previously, demonstrating implementation of a public notification plan in EDP+180 days is simply not feasible.

See comment 4.b of our February 9, 2018 comment letter and incorporated herein by reference. SWSC again asserts that a minimum of 36 months is needed to develop and implement a meaningful public notification plan.

The development and implementation of an extensive public notification plan, particularly the implementation of a web-based notification system, simply cannot be achieved within 180 days. Notwithstanding the significant degree of effort involved in developing the web-based notification system, SWSC's and the Commonwealth of Massachusetts procedures for bidding and procurement are extensive and require adequate time for each phase of the design, construction bidding, award, and implementation process. These procedures include, but are not limited to: budgeting and obtaining funding from our Board, procurement of engineering services to assist in the program development and design, development and bidding plans and specifications, advertising and bidding process, and contract award – all of which must occur prior to beginning work on the contract.

Additionally, EPA, in a recent rule adoption for CSO dischargers in the Great Lakes, states that a public notification plan is not enforceable unless contained within an adopted permit. Specifically, EPA states:

> *"The details and content of the public notification plan, however, are not enforceable…unless the document or the specific details of the plan are specifically incorporated into the permit. Under the final rule, the contents of the public notification plan are instead intended to provide a road map for how the permittee would comply with the requirements (emphasis added)...The details within the plan will also assist NPDES permit writers in establishing corresponding public notification permit conditions." (January 8, 2018 Federal Register p.723).*

Clearly, EPA intends that a public notification plan be submitted and reviewed by the permitting authority prior to implementation. Implementation could then be accomplished under a future NPDES permit renewal or permit revision.

SWSC understands it is a cumbersome and lengthy process for EPA to require submittal of the plan, review the plan, then once again issue a draft major modification to the SWSC NPDES permit to incorporate the requirements of the plan. In order to provide EPA with a less resource intensive process, SWSC suggests submission and implementation of the Public Notification Plan within this permit cycle, and without the need for an additional permit modification, provided that SWSC's submission and implementation schedule proposed below is accepted:

Request: SWSC suggests the following timeline in this Revised Draft Permit:

- EDP + 12 months: SWSC shall submit to EPA a public notification plan;
- Twenty-four (24) months following EPA and MassDEP approval of the submitted plan, SWSC shall implement the approved notification plan.

b) Public Parties Notification: The Revised Draft Permit clearly identifies that public notification may be made through electronic means, "including posting to the Permittee's website." The ability to post public notifications on a website will provide for a much timelier, and ultimately more accurate, public based notification system for CSO overflows. However, SWSC raises the following concerns/comments which require clarification or modification, as appropriate;

i. Part 1.B.3.g.1 of the Revised Draft Permit requires CSO activation and cessation notification be provided to "the public...public health departments...any other potentially affected entities, including downstream communities, whose waters may be affected by discharges from the Permittee's CSO."

ii. Part 1.B.3.g.2 and 1.B.3.g.3 of the Revised Draft Permit requires CSO notification to "any other potentially affected party…"

SWSC asserts that public notification on the website is sufficient to provide a 24/7 real-time notification to the public, inclusive of all "categories" of the public. It is unclear why EPA has specifically identified "public health departments …downstream communities… and other potentially affected entities" as a separate category from "the public." A requirement to separately notify unidentified third parties, or unnamed downstream communities is vague and not implementable.

Request: Clarify that notification of CSO events on the website meets the requirements of this section through the following revision (deletions in ~~strike through~~; additions in underline):

> **1.B.3.g.1**: Within ~~180 days of the effective date of the permit,~~ 24 (twenty-four) months of ~~the permittee shall submit to~~ EPA and MassDEP's approval of a Public Notification Plan describing the measures that will be taken to meet NMC #8 in Part I.B.2. of this permit (NMC#8), the permittee shall implement said plan. The public notification plan shall include the means for disseminating information to the public, including communicating the initial and supplemental notifications required in Part I.B.3.g.2. and 3 of this permit, ~~as well as procedures for communicating with public health departments and any other potentially affected entities, including downstream communities, whose waters may be affected by discharges from the Permittee's CSOs.~~
>
> **1.B.3.g.2**: Initial notification of a probable CSO activation shall be provided to the public ~~and other potentially affected party as soon as practicable~~, …
>
> **1.B.3.g.3**: Supplemental notification shall be provided to the public ~~and any other potentially affected party~~ as soon as practicable,

c) Initial CSO Notification Timing: Part 1.B.3.g.2 of the Revised Draft Permit requires initial notification of a probable CSO activation be provided to the public as soon as practicable, but no later than two (2) hours after becoming aware of the discharge.

In consideration of the significant number of CSOs (23) within the SWSC system, the varied locations of these CSOs, and staffing and resource constraints, SWSC requests that a four (4) hour initial notification be provided. This notification would be consistent with the timeframe EPA approved at 40 CFR 122.38(a)(2)(i) for CSO dischargers to the Great Lakes Basin. EPA has previously found that a four (4) hour notification *"balance(d)s the burden on CSO permittees with the public health benefit to the public receiving timely notification"* (EPA Response to Comments Essay #3.5-1).

To further support protection of the public and appropriate notification, in coordination with a 4 (four) hour notification, SWSC is willing to post a general notice on its website advising the public that large storms can trigger CSO events, and public health officials recommend avoiding contact with waterways during storm events and up to 48 hours afterward.

SWSC also requests that when reporting the CSO location, SWSC should be able to do so in the manner EPA has previously approved under the Great Lakes rule 40 CFR 122.38(a)(2)(B): *"Where CSO discharges from the same system occur at multiple locations during the same precipitation-related event, …the CSO permittee may provide a description of the area in the waterbody where discharges are occurring…and the permittee is not required to identify the specific location of each discharge."*

Request: SWSC requests Part 1.B.3.g.2 of the Revised Draft Permit be modified as follows (deletions in ~~strike through~~; additions in underline);

> Initial notification of a probable CSO activation shall be provided to the public ~~and any other potentially affected party~~ as soon as practicable, but no later than ~~two (2)~~ four (4) hours after becoming aware by …."
>
> Where CSO discharges from the same system occur at multiple locations during the same precipitation-related event, SWSC may provide a description of the area in the waterbody where discharges are occurring, and SWSC is not required to identify the specific location of each discharge.

d) Supplemental CSO Notification Timing and Content:

Part 1.B.3.g.3 of the Revised Draft Permit requires supplemental notification to the public be provided as soon as practicable, but no later than 24 (twenty-four) hours after becoming aware of the termination of any CSO discharge(s). The notification shall include:

1. CSO number and location
2. Confirmation of CSO discharge
3. Total Volume discharged from the CSO
4. Date, start time and stop time of the CSO Discharge

SWSC provided extensive comments in our February 9, 2018 comment letter on the Draft Permit. See our previous comments item 4a, (pages 12-14), as well as comment 9 (pages 17-19) of our February 9, 2018 comment letter, which is hereby incorporated into this comment letter by reference.

Following is a brief summary of our objections to the supplemental notification, both the 24 (twenty-four) infeasible timeframe, as well as the extensive and excessive content:

- The notification requirements are excessive and go far beyond EPA's guidance "EPA's Combined Sewer Overflows Guidance for Nine Minimum Controls. Specifically:

  Section 1-7: *"The NMC are controls that…do not require significant engineering studies or major construction, and can be implemented in a relatively short period…"*

  Section 9-1: *"The intent of the eighth minimum control, public notification, is to inform the public of the location of the CSO outfalls, the actual occurrences at CSO, the possible health and environmental effects of CSOs, and the recreations and commercial activities…curtailed as a result of CSOs…"*

  Further, this EPA guidance gives specific examples of what is expected for notification at a CSO outfall:

  - *Posting at affected use area*
  - *Posting at selected public places*
  - *Notices in newspaper, radio, TV news… (etc.).*

- CSO cessation notification will give the public a false sense of security that the water is "safe" to use, when water impairments that impact human health may still exist due to stormwater runoff, illicit connections, etc.

- SWSC has not been able to consistently measure flow volume at its CSOs in spite of having flow meters with multiple sensors at every regulator, due to complex hydraulic structural configurations, tailwater conditions, surcharging, and other measurement interference.

- The current placement of flow meters within the SWSC system was intended to measure each overflow event at each of the individual 23 CSO locations as accurately as possible, with an understanding that under certain conditions the information is more qualitative than quantitative. The metering program is also designed to support and inform the modeling and analysis required under the Integrated Wastewater Plan and annual reporting programs. The contract covering the use of the flow meters will expire October 2020 along with the contract operations of the treatment plant. At that time, it is anticipated that the metering system design and intent will significantly change with a focus on modeling and expanded rain gauges rather than extensive metering.

- The notification requirements are costly in relationship to benefit. SWSC estimates that we have already spent in excess of $500,000 per year for our public notification plan (approximately $21,700 per CSO). Additional requirements, of questionable public benefit, will serve only to further reduce available funds that could otherwise be directed toward reducing CSO discharges.

- The requirement for flow duration, stopping and starting times and volume are more appropriately considered part of a CSO Annual Report.

- EPA has failed to establish what additional benefit is provided in terms of public notification and health, by estimating and publishing CSO volumes within 24 hours, versus the significant cost, and the inherent unreliability, of such numbers.

- CSO discharges are often discontinuous, and as a result, more than 24 hours is necessary to determine whether an event has ended.

Request: SWSC requests the Revised Draft Permit be modified to provide supplemental notification to the public in two stages. The framework for each stage is provided below; details will be provided in SWSC's CSO Notification Plan.

The first stage of the supplemental notification would be provided within 7 (seven) days following cessation of all CSOs (as opposed to 24 hours). By providing a longer time frame, SWSC will have the ability to better validate the information to be posted. Further, CSO discharges are often discontinuous, and more than 24-hours is necessary to determine whether the CSO event has actually ended.

Additionally, a 7 (seven) day notification would be consistent with the timeframe EPA approved at 40 CFR 122.38(a)(2)ii, for CSO dischargers to the Great Lakes Basin. As with the SWSC draft permit, EPA also initially proposed a 24-hour supplemental time-frame, however EPA revised the timeframe to 7 (seven) days upon adoption.

> *"EPA decided to extend the deadline from the proposed 24 hour-deadline to "within seven (7) days of the end of the CSO discharge….EPA also concluded that following the initial notification there is less urgency from a public health protection standpoint to supply the information in the supplemental notification, which in EPA's view supports a timeframe that is longer than 24 hours."* (EPA Response to Comments Essay #3.6-1).

This first stage supplemental notification shall contain the CSO number and location, and confirmation of discharge.

The second stage of supplemental notification will be provided in the SWSC annual report. This second stage notification contents will be detailed in our public notification plan, however SWSC will consider a listing of CSO events by date, estimated volumes, and correlated rainfall.

Specific request SWSC requests Part 1.B.3.g.3 of the Revised Draft Permit be modified as follows (deletions in ~~strike through~~; additions in underline):

> Supplement notification shall be provided to the public. ~~and any other potentially affected party a~~
>
> (1) As soon as practicable, but no later than, ~~twenty-four (24) hours~~ seven (7) days after becoming aware of the termination of ~~any~~ all CSO discharge(s). Notification may be made through electronic means, including posting to the Permittee's website. The supplemental notification shall include the following information:
>
> CSO number and location
> Confirmation of CSO discharge
>
> (2) The permittee shall provide additional information in its annual report including:
>
> Total estimated volume discharged from the CSO
> Estimated ~~D~~date, start time and stop time of the CSO discharge

e) Annual Notification:
Part 1.B.3.g.4 of the Revised Draft Permit requires SWSC to post annually, on a website, certain information relative to its CSO and to water quality. While SWSC has no objection to posting CSO location, status of CSO abatement work, and contacts for additional information on CSO and water quality, SWSC takes great exception to posting "additional information on…water quality on a website." Such "information on water quality" is vague and should be deleted.

In addition, to support our request under item 1.d., above, secondary notification, SWSC is willing to post annually on its website, the annual report containing individual estimated CSO discharge event date, start time and stop time, in addition to a summary of CSO activations and volumes.

Request: SWSC requests Part 1.B.3.g.4 of the Revised Draft Permit be modified as follows (deletions in ~~strike through~~; additions in underline):

4. Annual notification – Annually, by April 30th, the permittee shall post information on the locations of CSOs, a summary of CSO activations and volumes, a listing of CSO events that include estimated date, start time and stop time, status and progress of CSO abatement work, and contacts for additional information on CSOs ~~and water quality~~ on a website. This information shall be disseminated through the means identified in the Public Notification Plan that is submitted in accordance with Part I.B.3.g.1. of this permit.

Response 42

The Final Rule Public Notification for CSOs to the Great Lakes implements Section 425 of the Consolidated Appropriations Act of 2016, requires EPA to work with the Great Lakes

States to establish public notification requirements for combined sewer discharges to the Great Lakes. It does not apply to dischargers outside of that area. Local considerations present for this permit, such as the State of Connecticut's "real-time" notification requirement as described below, properly inform a different approach.

With respect to the concerns raised in the above comment regarding the submittal date for the public notification plan, EPA is not required to re-issue or modify the permit to incorporate the public notification plan once it is developed, as it is incorporated by reference into the permit. Both the requirement to prepare and submit such a plan, as well as the overall parameters of the plan, have been subject to public scrutiny. Additionally, although the Permittee must submit the public notification plan to EPA and MassDEP, the agencies do not approve these plans. Therefore, implementation of the public notification plan is not contingent upon receipt of EPA's and MassDEP's approval.

Although the Public Notification Requirements for Combined Sewer Overflows to the Great Lakes Basin, 83 Fed. Reg. 712, are not applicable to this permit, Region 1's approach is consistent with the passage cited by the Permittee regarding enforcement. EPA agrees that the details and content of the public notification plan to be developed by the Permittee are not themselves enforceable. However, pursuant to Part 1.B.2.a.8, the Permittee is directly required in the permit to provide the public with adequate notification of CSO occurrences and impacts in accordance with the more specific requirements contained in Part 1.B.3.g (e.g., initial notification within 2 hours, supplemental notification within 24 hours, etc). The Permittee's public notification plan provides the road map for how it intends to comply with those specific permit provisions. Importantly, however, it is the two permit provisions above which establish the specific, applicable non-numeric effluent limitations.

EPA recognizes the Permittee's concerns regarding the need for additional time than what was proposed in the revised Draft Permit for the development of a public notification plan that meets the requirements of the permit. Specifically, the commenter cites the need for additional time than what was proposed in the revised Draft Permit to secure funding, advertise and award a contract for the development of a web-based notification system and will provide the SWSC with additional time to continue evaluating electronic methods for monitoring CSO discharges (i.e., direct vs indirect measurement) and to select the method that will allow for the dissemination of accurate information in a timely manner. Therefore, Part I.B.3.g of the Final Permit has been changed from the draft to allow 12 months from the effective date for the development and submittal of a public notification plan to EPA and 24 months from the effective date of the permit to implement the plan. EPA understands that there will be procurement and logistical issues associated with preparation and implementation of the plan. EPA, however, must balance these concerns against the need to provide the public with adequate information relating to CSO discharges as soon as possible, especially in light of the human health and environmental concerns associated with these types of discharges. EPA has previously required other CSO communities to develop such plans in 12 months without issue. Accordingly, in light of all of the preceding, EPA has provided a total of 24 months in the final permit for implementation, but does not believe 36 months, as proposed by the Commenter, is necessary.

With respect to the commenter's request for clarification on "potentially affected parties", upon further consideration, EPA has determined that the notification requirements in the Draft Permit, including the requirements in Part I.B.3.g. to provide the general public with notification of CSO are inclusive of all categories of the public, and the references to "affected entities" and "affected parties" have been removed from Part I.B.3.g. of the Final Permit.

With respect to the concerns expressed in the above comment regarding the initial CSO notification timing, in consideration of the comments received on the 2017 Draft Permit regarding the impact that discharges from the SWSC's CSOs has on both the Massachusetts and Connecticut reaches of the Connecticut River and the need to include adequate notification requirements in the permit, EPA determined that requiring the initial notification of a probable CSO discharge be made no later than two hours after becoming aware that a discharge has occurred is reasonable given the uses of the receiving water, the proximity of the discharges to the Connecticut border, and the estimated time of travel from the discharges to the state border (which is approximately two hours). The State of Connecticut, which is immediately downstream of Springfield, currently has a "real-time" notification requirement for anticipated CSOs in statute and has developed a state sponsored website for the public to use to identify likely active CSOs. The estimated travel time from Springfield to the Connecticut border is two hours under average flow conditions. This requirement remains unchanged in the Final Permit.

Merely providing a description of the area in the waterbody where CSO discharges are occurring, as opposed to the specific location of each discharge, as requested by the commenter, would not be appropriate given the number of CSOs that are located within a relatively small geographic area, the uses of the receiving water which may be negatively impacted by discharges of untreated combined wastewater and the proximity of the downstream State of Connecticut. The requirement to provide information on the location of where a CSO discharge is occurring remains unchanged in the Final Permit.

EPA supports the Permittee's efforts towards providing the public with a general advisory about CSOs and recommendations from health officials, and the Permittee is encouraged to continue to provide this information as part of its public notification plan that is required by the Final Permit.

With respect to the commenter's concerns regarding the supplemental CSO notification requirements, Chapter 9-1 of EPA's Combined Sewer Overflow Guidance for Nine Minimum Control Measures, provides *examples* of potential measures for notifying the public of CSO discharge events. As stated in the guidance, this list highlights *potential* measures for notifying the public of CSO discharge events, and is not, as suggested in the above comment, an all-inclusive list of measures that may be taken for notifying the public of CSO discharges.

EPA disagrees with the commenter's recommendation to change the deadline for the supplemental notice from 24 hours to 7 days. In Region 1's experience with other CSO communities, providing supplemental notice within 24 hours provides the public with

important information necessary to inform the public of ongoing public health risks, particularly with regard to the termination of the CSO event. In recognition of the concerns raised by the Permittee with respect to the time needed for validation and post processing of flow data, the requirement to include CSO discharge volumes in the supplemental notification has been removed from the Final Permit. This information shall, however, be included in the annual report that is required by Part I.B.4. of the Final Permit. (see Response 43). Removing the flow requirement is an additional distinguish from the Great Lakes Basin approach, see 40 C.F.R. § 122.38(a)(2)(ii)(A), and further supports the Region's requirement for supplemental notice within 24 hours.

EPA disagrees with the commenter's statement that notifying the public of the cessation of a CSO discharge will provide a false sense of security that the water is safe. While water quality may be negatively impacted by non-CSO sources, including stormwater runoff, providing timely notice of CSO discharges is intended to allow the public to take steps to reduce potential exposure to pathogens associated with untreated wastewater. EPA does, however, encourage the Permittee to provide the public with information relative to the impacts of wet weather, including those due to stormwater and other non-CSO sources, on the quality of the receiving water as well as to public health. Additionally, EPA supports the collaboration between the Permittee and public health entities in communicating the health risks presented by untreated discharges of combined stormwater and wastewater.

With respect to the comment regarding the annual notification, the language in Part I.B.3.g.4. of the Final Permit has been modified to clarify that the annual notification shall include information on "*CSO impacts on water quality*". While not a requirement of the permit, the permittee is may include information relative to individual CSO discharge events (i.e., date, start and stop times, and flow volume discharged per event).

Comment 43

Page 13 of 25, Part 1.B.4. Nine Minimum Controls Reporting Requirements: Part 1.B.4 (sections 1-3) contains three CSO Annual Reporting Requirements. Requirement 1.B.4.1 and 1.B.4.3 have been retained from the previous Draft Permit. Requirement 1.B.4.2 is a new requirement. SWSC comments are below:

Part 1 and Part 3 (retained from the previous Draft Permit, but also re-proposed in this revision) require the submission of a description of activities related to the Nine Minimum Controls, and a summary of the number of CSO activations and volume of each discharge, respectively. SWSC provided extensive comments on these requirements in our February 9th, 2018 comment letter, and these comments are herein incorporated by reference.

Of significant concern is **Part 1.B.4.3** which states: *"A summary of the required information on the number of activations each year for each CSO as well as the volume of each discharge from each CSO."*

In the Revised Draft Permit Fact Sheet, page 5 of 5, Section 4.0 CSO Notification Requirements, paragraph 2, states: *"…EPA is proposing a requirement in the Revised Draft Permit for the permittee to provide initial notification to the public of a probable CSO discharge…based on*

modeling estimates of discharges(s) based on rainfall (or other predictive modeling methodologies) rather than on actual CSO discharge measurement."

In this section of the Revised Draft Permit referencing initial CSO notification, **it is clear that EPA will accept the use of a model to determine CSO discharge events, rather than actual CSO discharge measurement.** SWSC acknowledges this clarity. Furthermore, the SWSC believes that accurately reporting and quantifying CSOs continues to be challenging in spite of advances in technology. It is for this reason that permittees should be able to utilize a variety of technologies to report CSO activity, including but not limited to, rain and flow metering, rainfall and flow modeling platforms, and other developing technologies such as artificial intelligence (AI) techniques.

Having to provide specific information as to each activation and each discharge is not consistent with other parts of the permit and fact sheet. Part 1.B.3.d, (which has not been modified as part of this draft revised permit), states: "The permittee shall quantify and record all discharges from combined sewer outfalls (NMC #9). Quantification shall be **through direct measurement)** (emphasis added).

SWSC recognizes the draft revised permit comment period is specific to those portions of the Draft Permit being modified, however inasmuch as the Revised Draft Permit Part 1.B.4, creates a conflict with Part 1.B.3.d, SWSC believes it is appropriate to raise that concern.

As previously submitted, SWSC objects to the reporting of measured volume and duration in hours for each event at every CSO. Extensive comments were provided in our February 9, 2018 Comment Letter, and SWSC reiterates our objections to flow measuring and monitoring that is far beyond the regulatory scope of the Nine Minimum Controls and represent a significant expense with limited benefit. See Comment 4, (pages 12-14) and comment 9 (pages 17-19) of our previous comment letter, which is hereby incorporated by reference.

Request: Revise Part 1.B.3.d to agree with Part 1.B.4, as follows (deletions in ~~strike through~~; additions in underline):

"The permittee shall quantify and record all discharges from combined sewer outfalls (NMC#9) utilizing EPA or other industry accepted methodologies. ~~Quantification shall be through direct measurement~~…."

Response 43

The commenter attempts to draw parallels between distinct requirements in the Revised Draft Permit which were developed to achieve different objectives: 1) Part I.B.3.g., which pertains to providing the public with timely notification of a *probable* CSO discharge so that appropriate precautions can be taken to minimize exposure risks associated with recreating on or near receiving waters into which CSO discharges occur, and 2) other provisions of Part I.B., which include the collection of data that will be used for determining compliance with permit limits and for evaluating the effectiveness of CSO controls. As indicated in Response 9, and further discussed below, the type(s) of information and data that is collected and reported under these provisions differs in the level of refinement that is necessary to meet the objectives of these permit conditions.

EPA has revised Part I.B. to clarify the monitoring and reporting requirements and remove redundancy. Specifically, the CSO monitoring and reporting requirements contained in Parts I.B.3.(e) I.B.4. the Final Permit have been modified to provide clarification. The requirements in Part I.B.4. and Part I.B.5. of the Draft Permit have been consolidated under Part I.B.4. of the Final Permit, which has been renamed "CSO Monitoring and Reporting".

Part I.B.3.e. of the revised Draft Permit, which is the minimum implementation level for NMC #9 (monitoring to effectively characterize CSO impacts and the efficacy of CSO controls), requires the quantification all discharges from each CSO through direct measurement. This information is to be recorded as set forth in Part I.B.4 of the Final Permit, which contains the nine minimum controls annual report requirements. The annual report shall include the CSO outfall monitoring data that is listed in the table in Part I.B.4. of the Final Permit (which was included in Part I.B.5. of the Draft Permit).

EPA maintains its position that the objective of the monitoring required under the nine minimum controls is to provide data that can be used to evaluate compliance with the technology based effluent limitations for CSOs (i.e., the nine minimum controls) that are set forth in the permit, the efficacy of the CSO controls that have been implemented and to validate the assumptions set forth in the Permittee's LTCP. It has been EPA and MassDEP's experience that direct measurement provides the most accurate indication of CSO activations. Therefore, the collection of data through direct measurement is essential for the regulatory agencies to conduct these evaluations. Forms of direct measurement may include, but are not limited to, metering of flows at each CSO outfall. Alternate approaches could include, for example, extrapolating the flow volume discharged through a CSO outfall from measurements of water levels in the interceptor sewers (or some other measured metric of a known quantity from which the flow volume could be derived). Therefore, the collection of data through direct measurement is essential for the regulatory agencies to conduct these evaluations. EPA does not believe there is a conflict between allowing use of modeling for purposes of the initial notification requirement of the permit, Part 1.B.3.g.2, and the reporting requirements of CSO events contained at Part 1.B.3.e and Part 1.B.4. The initial notification requirement serves a different purpose than the subsequent reporting requirements. EPA has allowed for modeling for the former in light of the import of providing notice as expeditiously as possible and the advantages that modeling can provide to serve that purpose.

EPA has revised Part I.B. to clarify the monitoring and reporting requirements and remove redundancy. Specifically, Parts I.B.4. and 5 of the draft Revised Permit have been consolidated under Part I.B.4. in the Final Permit.

Part I.B.3.g. requires the Permittee to provide the public with initial notification of a *probable* CSO discharge, a supplemental notification confirming whether there was, in fact a CSO discharge; and an annual notification which includes the information on the locations of CSOs, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and their impacts on water quality on a website.

The initial notification shall include the date and time a of a probable CSO discharge as well as the outfall number and location from which the discharge is suspected to have occurred. The supplemental notification shall confirm the occurrence of a CSO discharge and shall also include the outfall number and location from which the discharge occurred as well as the date, start and stop times of the discharge. Providing timely notice of CSO discharges is intended to allow the public to take steps to reduce potential exposure to pathogens associated with untreated wastewater. The use of modeling or other estimation methods to predict the likely occurances of CSO discharges is appropriate for the purpose of providing the public with timely notification of a likely CSO discharge.

In recognition of the challenges that may be associated with validating, processing and interpreting CSO data collected through direct measurement within the time frames specified in the draft permit, the CSO monitoring and reporting requirements have been revised in the Final Permit. Specifically, the requirement in Part I.B.3.g.3. of the revised Draft Permit to report the total volume of flow discharged as part of the supplemental notification has been removed from the Final Permit. CSO discharge volumes shall be included in the annual notification as required by Part I.B.4 of the Final Permit. Similarly, the requirement to submit the CSO outfall monitoring requirements in Part I.B.5. of the Draft Permit has been changed from a monthly to an annual reporting requirement, as specified in Part I.B.4. of the Final Permit.

Comment 44

Page 4 of 25, Part 1.A.1 Total Nitrogen (TN) Reporting Units:

Comments 5-11, below, relate to the imposition of a TN loading limit. In addition to those comments, SWSC also objects to the manner in which the limitation is expressed in the effluent parameters table (Part 1.A.1) of the Revised Draft Permit.

The Revised Draft Permit appears to intend that SWSC meet a rolling 12-month annual average limit of 2,534 lbs/day of TN. However, Part 1.A.1 (Discharge Requirements Table) shows the 2,534 lbs/day numeric value listed, incorrectly, under the column for monthly average. EPA then uses a footnote to attempt to explain that this is not what is really required.

SWSC requests the table be revised to show the more accurate "report" under the monthly average column for TN loading. More appropriately, EPA could then either provide a column for annual average load on the table, or discuss the annual average load in the footnote. In this manner, there will be no inaccuracy in the effluent table.

Request: Revise the effluent limits table as discussed above, by removing 2,534 lbs/day from the Monthly Average column, and replacing it with "Report."

Response 44

EPA agrees that more clarity is needed regarding the monitoring and reporting of TN. As discussed in Response 22, footnote 9 to Part I.A.1. of the Draft Permit has been modified and

divided into two footnotes to clarify how the total nitrogen values are to be calculated and reported.

Comment 45

Page 4 of 25, Part 1.A.1, Total Nitrogen Monitoring Frequency Calculation:
Comments 5-11, below, relate to the imposition of a TN loading limit. In addition to those comments, SWSC also objects to the 24-hour composite sample monitoring requirement, as shown in the revised effluent Table 1.A.1.

As was previously detailed in our February 9, 2018 comment letter, EPA should clarify that total nitrogen reporting is a calculation, not an additional analyte for SWSC to analyze. Total Nitrogen is simply the sum of Nitrate + Nitrite and total Kjeldahl nitrogen, both of which are already required to be analyzed weekly in the Revised Draft Permit.
As per EPA's guidance on Total Nitrogen:
(https://www.epa.gov/sites/production/files/2015-09/documents/totalnitrogen.pdf)

> "There are three forms of nitrogen that are commonly measured in water bodies: ammonia, nitrates and nitrates. Total nitrogen is the sum of the total kjeldahl (ammonia, organic and reduced nitrogen) and nitrate-nitrite. It can be derived by monitoring for organic nitrogen compounds, free-ammonia, and nitrate-nitrite individually and adding the components together."

In addition to our comment on sample type for total nitrogen, we also request clarity with respect to the calculation of average monthly load for total nitrogen. See requested language below.

Request: Revise footnote 9 as shown below (deletions in ~~strike through~~; additions in underline):

Report monthly average and maximum daily total nitrogen concentration in mg/L~~. A total nitrogen concentration value shall be calculated on each day a total kjeldahl nitrogen (TKN) and a nitrate-nitrite value is sampled. The monthly average and maximum daily total nitrogen concentration values to be reported shall be determined using this data set~~.

~~Report~~ the annual average and monthly average total nitrogen mass loading in lbs./day. ~~A daily mass loading value for total nitrogen shall be calculated for each day a total nitrogen concentration value was calculated, and shall utilize the average daily flow recorded for that day. Report average monthly mass loading for total nitrogen as the summation of the daily mass loading values divided by the number of samples~~.

The limit is an annual average mass loading limit (lbs/day), which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen ~~mass loading value~~ for the reporting month and the monthly average total nitrogen ~~mass loading value~~ of the previous eleven months."

Response 45

See Response 22 and Response 44 regarding clarifications made to Footnote 9 to Part I.A.1. of the Final permit with respect to the calculation and reporting of total nitrogen as well as the annual average load limit.

Comment 46

Page 4 of 25, Part I.A.1. Total Nitrogen Discharge Limitation v Benchmark: EPA, in the 2017 Draft Permit, proposed a requirement to monitor and report total nitrogen concentrations and mass loadings, while optimizing system operation to meet an annual average mass-based TN "benchmark." Two additional alternatives were also proposed, both of which also proposed a mass-based TN "benchmarks."

In this draft revised permit, EPA is no longer proposing a TN Benchmark, but is now proposing to impose an annual average loading **effluent limitation**. In the Fact sheet, EPA has justified this decision based upon comments from CTDEEP and others, in which an effluent limitation was requested instead of a benchmark (see Revised Draft Permit Fact Sheet page 3 of 5).

As contained in our February 9, 2018 comments on the Draft permit, the LIS TMDL defines out-of-basin to mean outside of states that border the LIS. With regard to the Connecticut River, out of basin means the States of Massachusetts, Vermont and New Hampshire. The LIS TMDL proposes a "target" for out-of-basin point sources of a 25% reduction from a baseline nitrogen loading. This target was met and exceeded in 2004-2005. Nonetheless, EPA would like to ensure the target continues to be met, which can be achieved through any number of cooperative efforts outside of a NPDES permit and without an effluent limitation.

The above notwithstanding, EPA has chosen to implement this TMDL POTW aggregate target as an individual effluent limitation for SWSC WWTP. The revised permit fact sheet is presented as support for this decision based upon the LIS TMDL and comments from CTDEEP "and others". SWSC objects to the proposed imposition of an effluent limitation for the following reasons: (a) the LIS TMDL does not include an individual wasteload allocation (WLA) for SWSC WWTP; (b) EPA has failed to provide an adequate statement of basis for imposing a TN effluent limitation within the Fact Sheet; (c) LIS TMDL Out-of-Basin Target has been met (d) CT DEEP "and others" fail to provide a basis for an effluent limitation in accordance with federal regulations, and (e) EPA's failure to provide an adequate opportunity for public comment.
Our comments are detailed below:

a) Failure to establish a WLA: The 2000 LIS TMDL does not establish a WLA for the SWSC WWTP. Further, the TMDL does not establish a WLA for ANY individual out-of-basin discharger, although detailed, discharger-by-discharger WLAs are contained in the TMDL for New York and Connecticut (both in-basin) individual dischargers.

   Federal NPDES regulations require that effluent limitations be consistent with the applicable wasteload allocation in an approved TMDL (40 CFR 122.44 (d)(1)(vii)(B)):

Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

The only significant reference to a reduction required from out of basin dischargers in the adopted TMDL, is not, in fact, a WLA, but a vague statement contained in Section VI.B.1: Allocation of the Out-of-Basin TMDL, which states:

"*Tributary nitrogen enrichment can be reduced by about 1,173 tons per year (delivered to Long Island Sound) through the application of through (sic) low-cost BNR retrofits of existing sewage treatment plant (resulting in a 25 percent reduction in point sources)…"*

Absent any WLAs for out-of-basin dischargers, EPA has created an effluent limitation by examining the effluent data from SWSC WWTP during the period 2012-2016. In so doing, EPA has failed to provide the technical and regulatory basis to support imposition of an effluent limitation eighteen years following adoption of the TMDL, thirteen years following attainment of the TMDL goal for out-of-basin dischargers, and in the absence of a WLA. Implementation of a TMDL is predicated upon an allocation of wasteloads and loads throughout the study area, in accordance with a model that predicts attainment of water quality standards. As stated earlier, individual WLAs are determined in a TMDL to allow for a distribution of such wasteloads, taking into account treatment plant design flow, actual flow, attenuation and other factors used to determine WLAs. The SWSC permit revision, however, proposes an effluent limitation in isolation of a model that includes the entire study area, in isolation of the reductions required of other out-of-basin WWTPs, and in isolation of the TMDL itself. This approach fails to ensure that the TMDL will not be exceeded or that there will not be a net increase of TN from other out of basin permittees or sources. It essentially targets the SWSC, whereas if the TMDL was updated, a universal approach could be applied with a broader opportunity for reduction solutions.

b) Failure to provide adequate statement of basis for an effluent limitation in Fact Sheet: EPA has failed to provide an adequate statement of basis in the Fact Sheet for the imposition of an effluent limitation for TN. The Fact sheet is significantly limited, providing only a statement on page 3 of 5, as a basis for an effluent limitation:

"as was pointed out in comments received from CTDEEP and other commenters, an optimization benchmark cannot provide assurance that the cumulative nitrogen load to the LIS will not exceed the out-of-basin (Massachusetts, New Hampshire and Vermont) point source wasteload allocation established by the LIS Total Maximum Daily Load ("TMDL")."

EPA's own regulations require that an adequate basis be established in a fact sheet. Specifically, a fact sheet shall include:

''a brief summary of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record by 40 CFR 124.9" See 40 CFR 124.8(b)(4).

"…the permitting authority must ensure that ''*effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.''* See 40 CFR 122.44(d)(1)(vii)(B).

EPA's Technical Support Document for Water Quality-based Toxics Control refers to the fact sheet regulations at 40 CFR 124.56 and states that *''the wasteload allocations along with the required long-term average and coefficient of variation used and the calculations deriving them must be included or referenced in the fact sheet. The permit limit derivation method used must also be explained in the permit documentation*.'' See EPA/505/2–90–001, March 1991, p.110.

When EPA proposed a total nitrogen "benchmark" goal in the Draft Permit, EPA provided an extensive basis and background in the Fact Sheet to link the imposition of a benchmark to goals contained in the LIS TMDL. Included in this benchmark basis are four pages of rationale, and additional data included in Appendix 3, Attachment G, and Attachment H – which is in excess of 19 pages of data and information (excluding Appendix A which could not be located). Yet the only additional information provided in the Fact Sheet for this permit revision, in which EPA proposes to impose an actual limitation, is a reference to a request to impose an effluent limitation from CT DEEP "and others,"
SWSC finds no evidence of the above cited regulatory requirements in the Revised Draft Permit Fact Sheet. Clearly, EPA has failed to establish a bridge from the Draft Permit Fact Sheet to the Revised Permit Fact sheet.

c) <u>LIS TMDL Out-of-Basin Targets Met:</u> As stated earlier, the TMDL requirements for out-of-basin dischargers are described in Section VI.B.1: Allocation of the Out-of-Basin TMDL, which states:

"*Tributary nitrogen enrichment can be reduced by about 1,173 tons per year (delivered to Long Island Sound) through the application of through (sic) low-cost BNR retrofits of existing sewage treatment plant (resulting in a 25 percent reduction in point sources)…"*

The TMDL continues:

"Given the scope and magnitude of this effort, the TMDL stresses implementation of the Phase III (in-basin) nitrogen reduction target and establishes <u>preliminary targets</u> and recommended actions for out-of-basin nitrogen source reductions <u>and</u> alternatives to nutrient control for improving water quality."

Clearly the LIS TMDL does not impose WLAs on individual dischargers from out-of-basin, and does not require out-of-basin WWTPs to have effluent limitations

SWSC objects to EPA imposing an effluent limitation for TN on out-of-basin discharger, with no WLA, in a watershed area that has already achieved the TMDL "target" of 25% reduction, and asserts this far exceeds the intent and scope of the LIS TMDL.

SWSC can find no substantiated data to demonstrate the 25% reduction in aggregative out-of-basin- nitrogen loads is not currently being achieved, and therefore no basis for EPA to assume it will not continue to be achieved utilizing the methods that are already in place. SWSC requests EPA to provide data and related studies that demonstrate failure of the out-of-basin states to maintain the 25% aggregate reduction in baseline loads. Absent such information, the assertion that a benchmark is not a suitable tool to maintain compliance with the TMDL is baseless.

d) EPA reliance on CTDEEP comments as basis for effluent limitation: In the Fact Sheet EPA states:

> *" ...as it was pointed out in comments received from CTDEEP and other commenters, an optimization benchmark cannot provide assurance that the cumulative nitrogen load to the LIS will not exceed the out-of-basin (Massachusetts, New Hampshire and Vermont) point source wasteload allocation established by the LIS Total Maximum Daily Load (TMDL)."*

SWSC critically examined the February 7, 2018 comment letter submitted by CTDEEP to EPA, and can find no technical or regulatory basis that supports the imposition of a total nitrogen limit in the SWSC permit. SWSC objects to EPA imposing an effluent limitation based upon the request of a third party, without a technical or regulatory basis.

However, since EPA has referred to the CTDEEP comments as a basis in the Fact Sheet for this revised permit and the imposition of an effluent limitation, we are providing the following comments on this basis:

I. Contrary to EPA's language in the Fact Sheet, where EPA refers to the CTDEEP claim that there is a wasteload allocation in the TMDL, there is, in fact, no individual wasteload allocation for SWSC WWTP in the LIS TMDL. See our comment under 5,a) above, where this is discussed in detail.

II. CT DEEP's February 7, 2018 letter states: "We would also like to bring to your attention, the Enhanced Implementation Plan (EIP), which allowing the Springfield WWTP to exceed the baseline cap directly violates."

III. The EIP which CTDEEP references, is simply a document that lays out the goals and the intent of the contributing parties as to what actions they will take going forward. The EIP itself, is not a legally binding document and therefore, cannot provide a legal basis for EPA to impose a water quality based effluent limitation for total nitrogen.

IV. The above notwithstanding, when the EIP is critically examined, it becomes apparent that the SWSC is, in fact, through our acceptance of an annual average loading benchmark, proposing a course of action that is consistent with the EIP. EPA's draft revision imposing a TN effluent limitation, is not consistent with the goals and intent of the EIP and, in fact, goes far beyond the intent or requirements of the EIP with no legal basis or technical support.

Part 1.b.i-iii, of the EIP is shown below:

> *b) Consistent with the 2000 TMDL, EPA and the tributary states will implement a tributary state wastewater treatment plant (WWTP) permitting strategy with a goal of essentially capping existing WWTP total nitrogen loads at or near existing levels until agreement is reached on final allocations and how they will be achieved.*
>
> *I. Cap upstream state WWTPs at or near existing total existing nitrogen loads.*
>
> *II. Require optimization studies for upstream state WWTPs.*
>
> *III. Establish nitrogen monitoring requirements.*

Clearly, an annual average load benchmark of 5,429 lbs/day meets the requirement of capping upstream states' loads at or near existing nitrogen loads. Clearly, optimization studies are intended. Clearly nitrogen monitoring, not effluent limitations, are intended.

There is no meaningful interpretation of this language that would support or provide a legal basis for EPA's arbitrary creation of a water quality based effluent limitation for TN.

Further, the EIP goes beyond even simply providing a framework for NPDES permitting in out-of-basin treatment facilities as shown in Part 1.b.i-iii, above. The EIP offers examples of language that has been used in other out-of-basin permits. That language is nothing like what EPA has proposed here for SWSC. It does not include specific numeric limits, and the only reference to a loading goal is phrased in terms of an annual average. The full text of the sample guidance permit language can be seen in footnote 1 of the EIP document. This detailed permit language has three main regulatory components:

(1) optimization studies;

(2) nitrogen monitoring requirements; and

(3) the calculation of an annual average load based on a calendar year (Jan-Dec), not a 12-month rolling average.

Request: SWSC objects to the reliance on DEEP and "other" third party comments, which provide no adequate legal, regulatory or technical basis to include nitrogen effluent limitations in the SWSC Permit.

e) EPA's failure to provide adequate opportunity for public comment

During development of a TMDL, the public is provided an opportunity to comment on the development of individual WLAs, the distribution of the WLAs, the allocation of the WLA versus load allocation (LA), and the environmental and economic impacts of the overall TMDL plan to attain water quality in the impaired waterbody segment.

During development and public notice of the LIS TMDL, the public was presented with a TMDL that provided for the overall attainment (and associated economic impacts) of the water quality

criteria through: (1) assigned WLAs to in-basin dischargers and (2) an aggregate load target reduction from out-of-basin dischargers.

In the SWSC Permit Revision, EPA has effectively assigned an out-of-basin WLA to an individual discharger, and provided public comment in isolation of the overall TMDL attainment plan, in isolation of all other out-of-basin dischargers, and in isolation of all other in-basin WLAs and LAs. By carving out public comment to an isolated WLA developed outside the TMDL process that should more appropriately be applied to a basin-wide strategy EPA has prevented the public from effectively evaluating the overall environmental and economic impacts of this action on the TMDL's overarching strategy to attain water quality goals, and the associated economic impacts.

f) Compliance Schedule: While SWSC strongly opposes the inclusion of an effluent limitation for total nitrogen, in the event EPA adopts a Final Permit that does, in fact, contain an effluent limitation for total nitrogen, SWSC requests that a compliance schedule be included in the permit.

The SRWTF facility is unable to meet the annual average TN loading effluent limitation of 2,534 lbs/day, proposed in this revised permit, without a significant upgrade of its facilities. Please see our detailed comments under 6.d, below, which provides an analysis demonstrating that potentially 80% of the time, the plant effluent exceeds the concentrations necessary during wet periods (produced at 49 mgd, 12-month rolling average flow) to achieve the annual average loading limitation. In order for the SRWTF to achieve consistent compliance with this proposed water quality based effluent limitation, SWSC must undertake a significant upgrade of the SRWTF to an advanced biologic nutrient removal (BNR) process. Such an upgrade would be at considerable expense and significant length of time (without proven environmental benefit).

In accordance with 314 CMR 4.03(b), a NPDES permit may specify a compliance schedule when a permittee: *"…cannot comply with such permit requirements or limitations, or there is insufficient information available to determine whether the permittee can comply with such permit requirements or limitations."*

SWSC requests the following compliance schedule:

EDP+3 years: Permittee shall undertake an engineering analysis and alternatives study of the SRWTF to determine the most cost effective treatment methods available to consistently achieve compliance with the water quality based effluent limitation for total nitrogen contained in this permit. This alternatives analysis shall utilize a statistically defensible data set of current plant performance for TN over a number of months and seasons, and shall recommend treatment methodologies that will provide for compliance over a range of conditions including wet weather events, projected future flows to the facility (up to the permitted flow), and a range of temperature conditions.

EDP+ 6 years: Permittee shall secure all necessary approvals and future funding commitments for the required upgrade project. Permittee shall also complete the design and prepare the Request for Proposal.

EDP+ 7 years: Permittee shall advertise for bids for improvements necessary at the SRWTF to achieve consistent compliance for the total nitrogen effluent limitation.

EDP + 8 years: Permittee shall select the contractor and award the project.

EDP+ 10 years: Permittee shall complete construction and place into operation improvements at the SRWTF, noted above.

EDP+ 11 Years: Permittee shall evaluate performance of the SRWTF improvements and request an extension to the compliance schedule if necessary.

EDP+ 12 years: Based upon the performance evaluation, the Permittee shall achieve compliance with the total nitrogen water quality based effluent limitation.

Request:

For the reasons cited above and elsewhere in these comments, and our previous comments, SWSC requests that EPA remove the nitrogen discharge effluent limitation.

Response 46

EPA has addressed each of the issues and concerns raised in the above comment in the manner in which they appear. Also see the General Response.

(a) There is no individual WLA for Springfield in the LIS TMDL

EPA established the TN effluent limitation based upon its evaluation of effluent data from 2012-2016 and receiving water data indicating that that LIS is exceeding its assimilative capacity for that pollutant and is suffering the continuing effects of cultural eutrophication. This effluent limit, which was determined to be necessary and was imposed pursuant to 40 CFR § 122.44(d), is consistent with the assumptions and the requirements of the TMDL and will further its implementation. Despite substantial reductions and progress to meet the TMDL over the past 30 years, water quality standards are still not being achieved. EPA agrees that the out-of-basin wasteload allocation identified in the LIS TMDL does not provide wasteload allocations for individual point source dischargers. But neither an updated TMDL nor an individual WLA for a discharge is a legal prerequisite for an effluent limit, as discussed in the General Response.

The commenter contends that the nitrogen effluent limitation for the SWSC was established "in isolation of a model that includes the entire study area, in isolation of the reductions required of other out-of-basin WWTPs, and in isolation of the TMDL itself." First, both the Environmental Appeals Board and First Circuit have repeatedly held that development of a model or similar analysis is not required prior to developing a water quality-based effluent limitation.

The commenter also alleges that imposition of the effluent limit on the facility will not ensure consistency with the TMDL. To the contrary, the imposition of enforceable effluent limitations will do more to ensure compliance with the TMDL compared with the path advocated by the commenter — namely, voluntary reductions in TN loading, which could be increased at any time for any reason.

The commenter's suggestion that it is being singled out among the out-of-basin dischargers is not accurate. EPA has imposed new nitrogen effluent limitations on three other out-of-basin POTWs and outlined its overall approach to permitting the remaining POTWs, including Springfield. Prioritizing reissuance of the Springfield POTW permit, which is long expired, makes sense from the standpoint of implementing the Act and achieving water quality standards in LIS, given the size and location of the Springfield facility. It is the largest out-of-basin point source contributor of TN to those waters and is marked by increasing load trends, which will add further TN loading to a water body that has already reached its assimilative capacity for the pollutant, and thus contribute to excursions above applicable water quality standards.

(b) EPA has failed to provide an adequate statement of basis for imposing a TN effluent limitation within the Fact Sheet

The permitting authority is only required to "*briefly* set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit," and, when applicable, include "*[a] brief summary* of the basis for the draft permit conditions including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record." 40 CFR § 124.8(a), (b)(4).

EPA's description of the TN effluent limitation, including its technical derivation and the reason for converting it into an enforceable limit, was proportional to the importance of the issue involved and the degree of controversy surrounding it. The justification for the TN effluent limit is included in both the November 15, 2017 Fact Sheet, provided for public notice with the initial Draft Permit, and the August 17, 2018 Fact Sheet Supplement provided for public notice with the revised Draft Permit. These two documents provided, together, the basis for the TN effluent limit. The basis for including a requirement that controls the discharge of nitrogen was explained in the 2017 Fact Sheet as it was included as an alternative benchmark in the initial draft permit. The basis for changing the benchmark to an effluent limit was explained in the 2018 Fact Sheet Supplement. EPA made additional reference to the letter from CT DEP, and endorsed the rationale set forth in it as a basis for shifting to the more protective course called for by Section 301 of the Act.

The commenter has focused on the comparative lengths of the fact sheet and fact sheet supplement, but this complaint misses the mark. EPA is under no obligation to repeat background information relevant to the facility, discharge and receiving waters when making a discrete adjustment to a draft permit, and one that draws from a common set of operative facts, which as the commenter points out was set out in extensive detail in the initial fact sheet. Aside from pointing out that the fact sheet and supplement differed in length, the commenter does not identify how its ability to raise issues or arguments was adversely

affected. To the contrary, the commenter was fully apprised of the relevant issues, as evidenced by the voluminous, detailed and cogent comments on the draft.

As discussed in the General Response, the Agencies reviewed comments regarding the total nitrogen effluent limits received from this commenter and others and have revised the effluent limit to incorporate a mass-based annual average limit derived from the facility design flow, rather than based on statistical evaluation of facility performance data.

(c) LIS TMDL Out-of-Basin Target has been Met

The commenter asserts that the TMDL out-of-basin target has been met and there is "no basis for EPA to assume it will not continue to be achieved utilizing the methods that are already in place," but this misapprehends the command of Sections 301 and 402 of the Act. "[A] mere possibility of compliance does not 'ensure' compliance" as required by the statute and regulations. *In re City of Marlborough, Mass. Easterly Wastewater Treatment Plant*, 12 E.A.D. 235, 248-52 (EAB 2005). *See also, In re Gov't of D.C. Mun. Separate Storm Sewer Sys.*, 10 E.A.D. 323, 342 (EAB 2002) (remanding permit where the Region failed to support its conclusion that the permit would "ensure" compliance with water quality standards and questioning whether the Region's statement that the permit is "reasonably capable" of achieving water quality standards comports with prohibition against issuing permits that do not ensure compliance with water quality standards). As is discussed in the General Response, the effluent limit is based on both the need to assure that the out-of-basin target will continue to be met through the imposition of enforceable permit limits rather than voluntary reductions that could be abandoned at any point and the need to prevent further degradation of a water body in a downstream state.

The commenter's refrain that the presumed 25% reduction from out-of-basin dischargers has already been achieved misses the operative point from the standpoint of CWA permitting: even with such a reduction and with other far more significant and costly reductions from CT and NY POTWs, water quality is still impaired for nutrients in LIS. Springfield has not persuasively disputed that its discharges, which are both substantial and proximate to LIS, have the reasonable potential to cause or to contribute to water quality standards violations, which are ongoing. It instead argues that more planning, in the form of revised TMDL, or analysis, by way of a new water quality model, are required before EPA can act. As explained, this is premise is not sound, and the Act nowhere establishes such record-based or regulatory preconditions to development and imposition of necessary WQBELs upon permit reissuance.

(d) CT DEEP "and others" fail to provide a basis for an effluent limitation in accordance with federal regulations

EPA took account of the concerns expressed by the downstream state consistent with the CWA § 401(a)(2) and federal regulations. Section 401(a)(1) of the CWA *forbids* the issuance of a federal license for a discharge to waters of the United States unless the state where the discharge originates, in this case Massachusetts, either certifies that the discharge will comply with, among other things, state water quality standards, or waives certification.

EPA's regulations at 40 CFR § 122.44(d)(3), §124.53 and §124.55 describe the manner in which NPDES permits must conform to conditions contained in state certifications. Section 401(a)(2) of the CWA and 40 CFR § 122.44(d)(4) *require* EPA to condition NPDES permits in a manner that will ensure compliance with the applicable water quality standards of a "downstream affected state," in this case Connecticut. The statute directs EPA to consider the views of the downstream state concerning whether a discharge would affect that state's waters. If EPA agrees that a discharge would affect downstream waters, including causing or contributing to violations of that state's water quality standards, EPA must condition the permit to ensure compliance with the water quality standards. If the downstream affected state believes that the permit fails to include such requirements, then it may appeal the permit (like any other interested person with standing).

In this case, the TN effluent limit has been derived to meet Section 301(b)(1)(C) of the Act, to ensure that the downstream state water quality standards are met and that those waters are not further impaired by increases in TN loading from out-of-basin discharges, and also to be consistent with the assumptions of the 2000 TMDL for downstream Connecticut waters.

EPA did not rely on the EIP as the sole basis for its decision making, but instead grounded its decision in the LIS TMDL, and Sections 301(b)(1)(C), 401 and 402 of the Act and implementing regulations. EPA fully concurs that the EIP is not legally binding, but EPA has elsewhere described its decision to afford the EIP framework some weight, in light of the fact that it reflects the consensus views of all five states that discharge to and contribute impairments to the five LIS states. EPA's interpretation of the EIP is consistent with the plain text of that document ("Consistent with the 2000 TMDL, EPA and the tributary states will implement a tributary state wastewater treatment plant (WWTP) permitting strategy with a goal of essentially capping existing WWTP total nitrogen loads at or near existing levels until agreement is reached on final allocations and how they will be achieved."; "Cap upstream state WWTPs at or near existing total existing nitrogen loads."). It, additionally, accords with the views of the states, as evidenced by CT's comments and MA's certification of the permit, along with the issuance of an identical state permit. At bottom, the EIP evidences concern over the contribution of out-of-basin dischargers and the need for EPA and other CWA regulatory to introduce "enhanced" controls on TN loading, because of severe, ongoing nitrogen-driven impairments in LIS. In addressing that concern, and based on comments on the draft permit, EPA reasonably opted for a protective approach comprised of enforceable limits.

EPA also did not establish the TN effluent limit only because CTDEEP requested it, but because CTDEEP, and others, presented legal arguments and technical analyses that had not previously been considered. Specifically, these commenters argued that:

> A nitrogen "benchmark" provides no legal assurance that the Springfield Regional Wastewater Treatment Plant will optimize its nitrogen removal efforts. The term "benchmark" is neither defined nor used in the CWA, the nitrogen TMDL for LIS, or in EPA's nitrogen reduction strategy. A nitrogen "benchmark" is unenforceable, and is unacceptable. (Denise Ruzicka, CTDEEP in comments presented at the public hearing on April 24, 2018)

And:

> The benchmarks in the draft permit and the other two alternatives are not acceptable. A benchmark is not an enforceable limit, and, without a numerical limit, enforcement is impossible and there are no consequences for noncompliance. (Comments Submitted by the Connecticut Fund for the Environment, Inc., and its Bi-state Programs Save the Sound and the Long Island Soundkeeper, by Letter Dated February 7, 2018)

EPA considered this characterization and agreed that the benchmarks do not have the weight to ensure that loads are "essentially capped" as required by the Enhanced Implementation Plan ("EIP"), and discussed in the General Response, section II.

In addition, EPA considered the scientific papers published after the completion of the TMDL and cited by the commenters (discussed further in the section III of the General Response) that cast doubt on the 1998 estimates made of the out-of-basin baseline point source loading from which a 25% reduction in nitrogen was assumed in the TMDL. These later estimates suggest that the baseline loading may actually have been significantly lower than assumed in the TMDL which, in turn, casts doubt on claims of out-of-basin point source load reductions achieved so far. While that uncertainty can never be removed as there is very little out-of-basin point source nitrogen effluent data from 1998, it does suggest another reason why it would be unreasonable to allow out-of-basin point loading to *increase* over time, as would be more likely in the absence of enforceable limits.

EPA evaluated the concerns raised and agreed that under Section 301 and 401(a) an effluent limit is needed to provide assurance that the out-of-basin load will not increase over time as flows from the out-of-basin dischargers increase and cause further impairment or exceed the out-of-basin allocation.

(e) EPA's failure to provide an adequate opportunity for public comment.

EPA disagrees. There was ample opportunity for public comment, well above and beyond the minimum 30 days required by NPDES regulations at 40 CFR § 124.10(b). The public comment period for the revised Draft Permit ran from August 17, 2018 through October 15, 2018 for a total of 60 days, twice the minimum requirement.

As discussed in detail in the General Response, this permit is consistent with the assumptions and requirements of the TMDL, and implements other permitting requirements of the CWA, and does not change the TMDL in any way.

EPA rejects the assertion that the development of an out-of-basin permitting allocation has deprived the public of an opportunity to comment on the environmental and economic ramifications of the permit as it relates to the TMDL. The comment erroneously presumes that EPA, by issuing a permit consistent with the assumptions and requirements of the TMDL and to ensure compliance with water quality standards of affected states, is revising

the TMDL. This is not an action under Section 303 of the Act, but rather 301 and 402 that is designed to ensure consistency with the TMDL, and to assure compliance with Section 301, including applicable water quality standards. In any event, the length of time afforded the public to comment in this case exceeds the regulatory minimum for TMDL comment.

(f) Compliance Schedule

See Response 47.

Comment 47

Page 4 of 25, Part I.A.1. Nitrogen Discharge Limitation: The draft revised permit included an average annual TN mass loading of 2,534 lbs/day as a discharge limitation. SWSC can find no reasonable basis in EPA's factsheet to support the selection of 2,534 lbs/day as an effluent mass loading limitation. The period of data used to select this value does not reflect typical influent flow conditions that occurred at SRWTF in the past. SWSC strongly objects to EPA's proposed use of faulty estimates of the existing load as a source for developing the new target that is completely without technical or regulatory justification. Such a flawed approach would unfairly regulate those facilities, like SRWTF, that have already upgraded and exceeded required load reductions; it would not be justified to expect the same percent reduction from an upgraded plant as from a plant that had not upgraded. It is arbitrary and capricious to force an effluent limitation, or somehow interpret or extrapolate requirements set forth for SRWTF, in a manner creating significant, binding, regulatory consequences that would unfairly burden SWSC's ratepayers.

Request: SWSC requests that EPA incorporate an optimization benchmark load into the final NPDES permit at Part I.H.1.a as follows. "*The Permittee shall continue to operate the treatment facility such that compliance with ammonia, BOD and TSS limits is maintained, while at the same time optimize nitrogen removal process to achieve a 12-month rolling average benchmark concentration of 8 mg/l total nitrogen*." The technical and regulatory bases for this request are provided below.

Basis for Comment

The TMDL target for out-of-basin wasteloads for the Connecticut River is 16,254 lbs/day of TN, which is 25% lower than the TMDL baseline load of 21,672 lbs/day TN. Note that the TMDL baseline was based on loading conditions in 1990, when SRWTF was a conventional activated sludge plant (extended aeration process) with no biological nutrient removal capability and discharged an effluent with total nitrogen around 19.6 mg/L[46]. There is no technical or regulatory basis to require that SWSC maintain its existing mass loading level, or its mass loading level during some arbitrary period. The TMDL target for out-of-basin wasteloads for the Connecticut River is 25% lower than the TMDL baseline load in 1990.

In anticipation of the TMDL, SWSC upgraded its treatment plant in 1995 to incorporate nitrogen removal. As a result, SWSC consistently discharges TN concentrations less than 10 mg/L, which

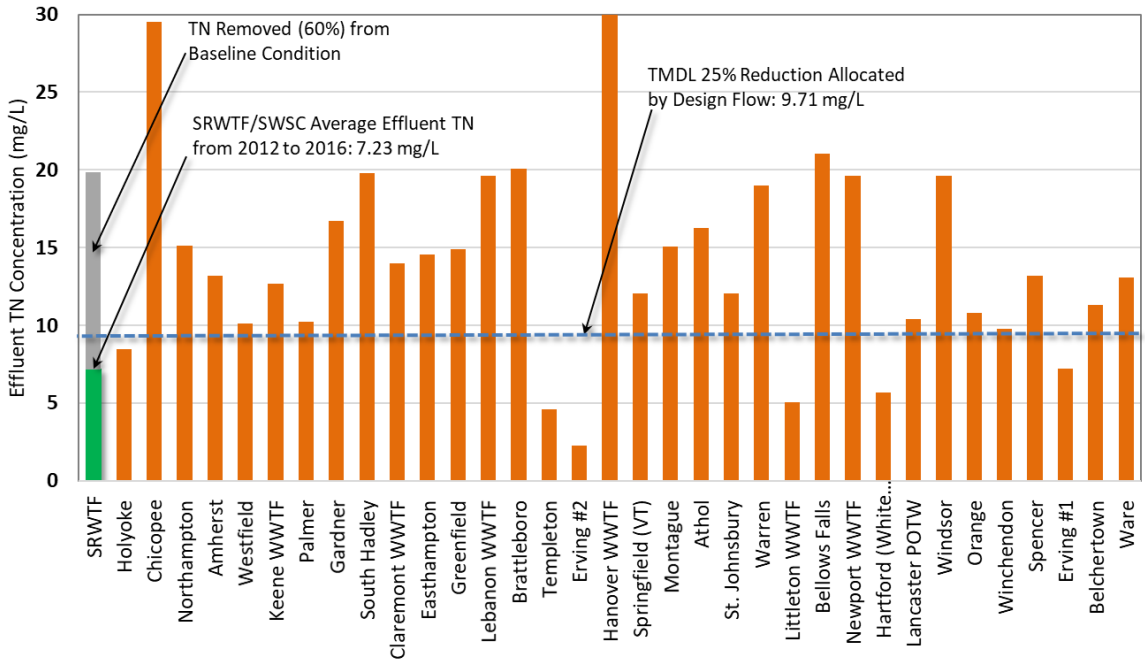
[46] EPA's estimate of non-BNR plant based on an average of discharge concentrations from conventional activated sludge plants in Massachusetts.

represents a decrease of approximately 50% compared to the TMDL baseline conditions (1990). Prior to 1995, SRWTF was a conventional activated sludge plant with very limited biological nitrogen removal capacity. SRWTF currently discharges approximately 37 to 50 MGD; flow is highly dependent on precipitation conditions. However, SRWTF *is authorized to discharge up to its* design flow of 67 MGD. As its discharge flow increases, nitrogen load can be expected to increase proportionately. However, even at its maximum design flow, SRWTF will be discharging considerably less TN load than its share of allowable load.

5,429 lbs/day is the TMDL-based TN Allocation for SRWTF

As we commented in our February 15, 2018 letter on the previous draft permit dated November 15, 2017, SWSC has been unfairly targeted with TN requirements without any legal or scientific basis. SWSC has exceeded the TN mass loading reduction requirement interpreted from the 2000 LIS TMDL. Based on the design flows of the out-of-basin dischargers in the Connecticut River basin, the calculated TMDL allocation for SRWTF would be 5,429 lbs/day, which is SRWTF's share of the allowable wasteload of 16,254 lbs/day, based on its share of the total design flow (67 MGD out of 201 MGD).

The figure below shows the effluent TN concentrations of major out-of-basin dischargers to the Connecticut River basin, in order of design flow, in comparison to the allowable annual average TN concentration of 9.71 mg/L at design flow capacity. SRWTF is one of only a few dischargers with effluent TN concentration that will satisfy the allowable TMDL load at its design capacity.



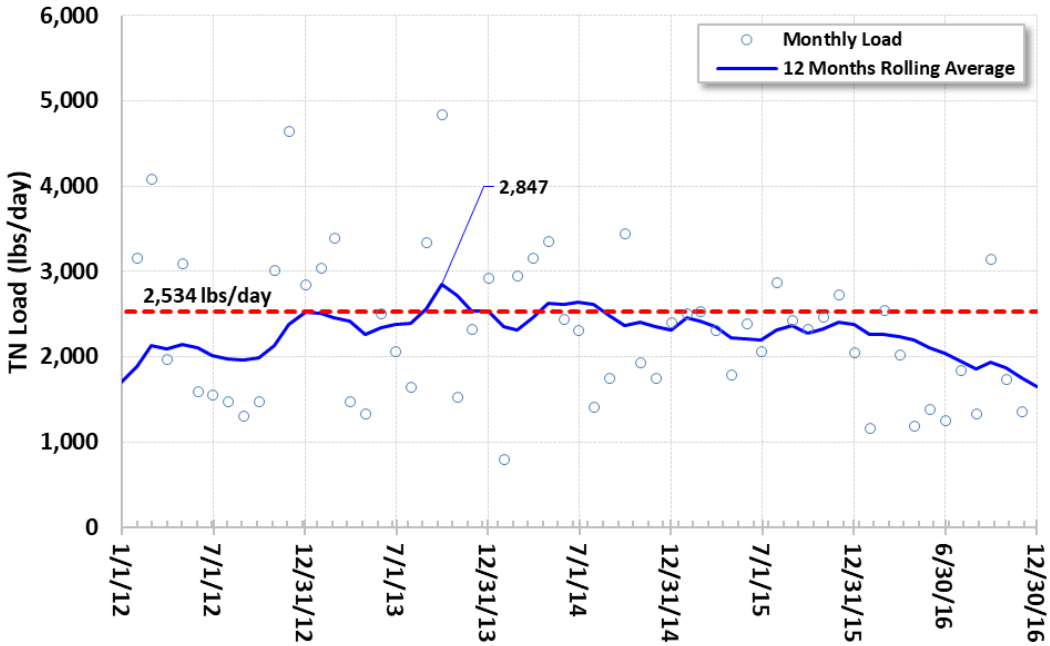
Average Annual Effluent TN Concentrations from Out-of-Basin POTWs Tributary to the Connecticut River with Design Flows Greater than 1.0 MGD.[47]

[47] Factsheet, Attachment G, Out of Basin Point Source Loadings, Draft NPDES Permit No. MA0101613, February. 2018.

2,534 lbs/day Does Not Reflect Current Loading Condition

The total nitrogen mass loading rate of 2,534 lbs/year is the maximum of the calendar year averages (Jan. - Dec.), between 2012 and 2016. However, the permit requires SWSC to report a 12-month rolling average ("the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months."). EPA's inconsistency in calculating permit effluent limitations and reporting requirements on TN loads results in the permit becoming more stringent than intended, as the maximum of a 12-month rolling average is typically greater than the average of calendar year.

Using the DMR data EPA included in Appendix A of the Modification Fact Sheet Supplement, the figure below plots the reported monthly TN loads from 2012 to 2016. The 12-month rolling average is shown as the blue line and 2,534 lbs/d limit is shown as red dashed line. During the 2012-2016 period, there are 8 months when the 12-month rolling averages are greater than 2,534 lbs/d. If a permit effluent limitation of 2,534 lbs/d had been given in 2012, then SWSC would have been in non-compliance with the permit limit 13% of the time during the 5-year permit period.



Analysis of TN Optimization Benchmark

As stated in our previous comments to the 2017 draft permit, SWSC considers a benchmark concentration of 8 mg/L TN reasonable as an annual average optimization benchmark for the following reasons:

It is a widely acceptable practice in the wastewater treatment field that performance of process technologies is typically evaluated by effluent concentration (as opposed to effluent load) of the

targeted compounds, e.g. BOD, TSS, NH3-N. Effluent TN concentration must therefore be the basis of any benchmark for performance evaluation/optimization.

Based on the performance data available in the literature, it is not reasonable to expect a Ludzack-Ettinger (LE) process (currently SRWTF operates under such biological process mode) to consistently achieve an effluent concentration of lower than 8 mg/L TN because of the physical limitations imposed by its configuration. Therefore, if an optimization target of 8 mg/L TN effluent concentration is established, plants utilizing the LE process will likely require optimization to adjust operation parameters or potential modifications to operate in different process configurations.

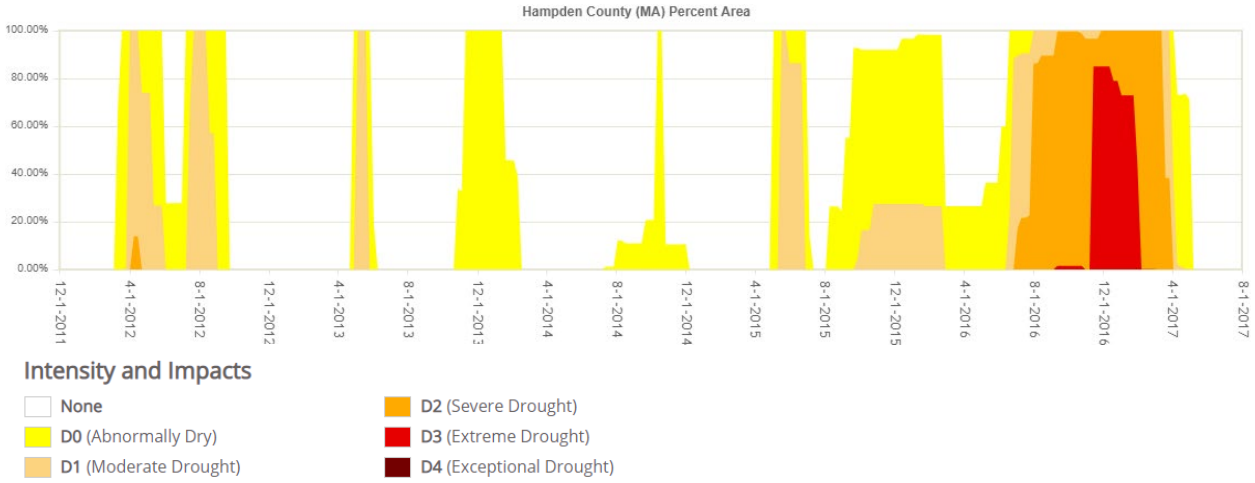
Meeting the 8 mg/L TN benchmark would ensure that SRWTF will not have any potential to exceed the TMDL threshold concentration of 9.71 mg/L associated with its allowable TMDL load.

However, if EPA believes that it needs to include a loading-based optimization benchmark, then that benchmark structure should include the following aspects:
Allow additive loads from anticipated future growth, as described in comment #8 below.

Allow SWSC to add the existing loads allocated to other POTWs that would be conveyed to SRWTF for treatment upon completion of regionalization of wastewater treatment services, as described in comment #9 blow.

The optimization benchmark of 2,954 lbs/day is computed using the 12 month rolling average effluent TN concentration from 2012-2016 and 95-percentile of 12 month rolling average of influent flow from 2000-2016.

SWSC has been proactively optimizing operations at SRWTF to improve treatment performance to reduce TN loads to the Connecticut River. The 2012-2016 period was a very dry period (see draught map below), as a result, the 96 percentile of 12-month rolling average flow is 40 MGD (as shown in the figure on page 16) during this period. However, considering influent flow data over a longer period (2000-2016), the 95-percentile flow is approximately 49 MGD.

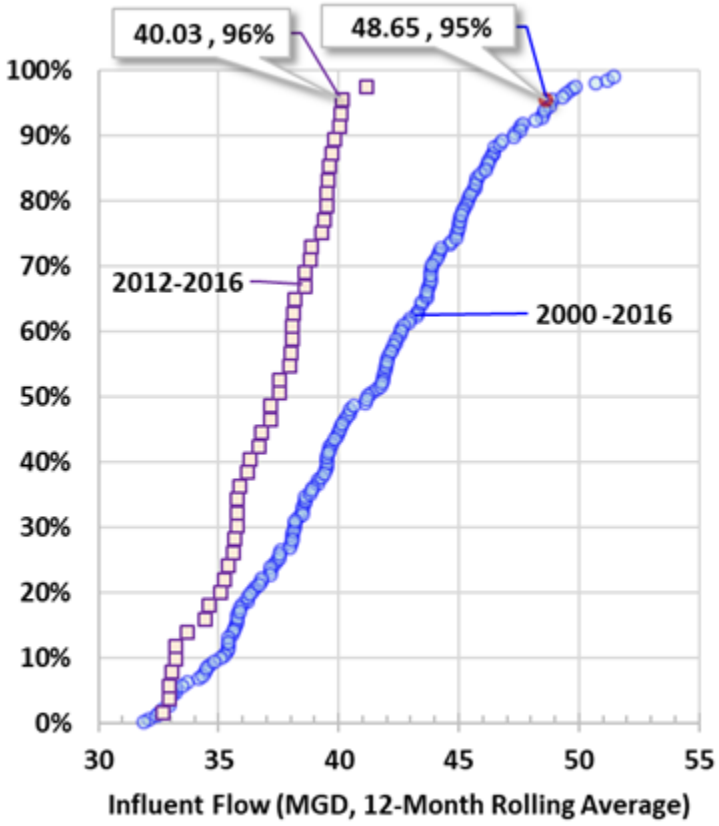


Draught Intensity during 2012-2016 Period for Hampden County, MA. Reference: National Integrated Drought Information System: https://www.drought.gov/drought/search/data

In the context of maintaining the current TN load condition from SRWTF, and a 25% TMDL out-of-basin reduction requirement, it is reasonable to use the 95 percentile of the recorded influent flow (49 MGD), since the last permit (2000 to 2016) and the median TN 12-month rolling average concentration (7.23 mg/L) of the most recent years (2012-2016) to calculate the optimization benchmark.

Therefore, the optimization target should be 49 MGD x 7.23 mg/L x 8.34 = 2,954 lbs/d.

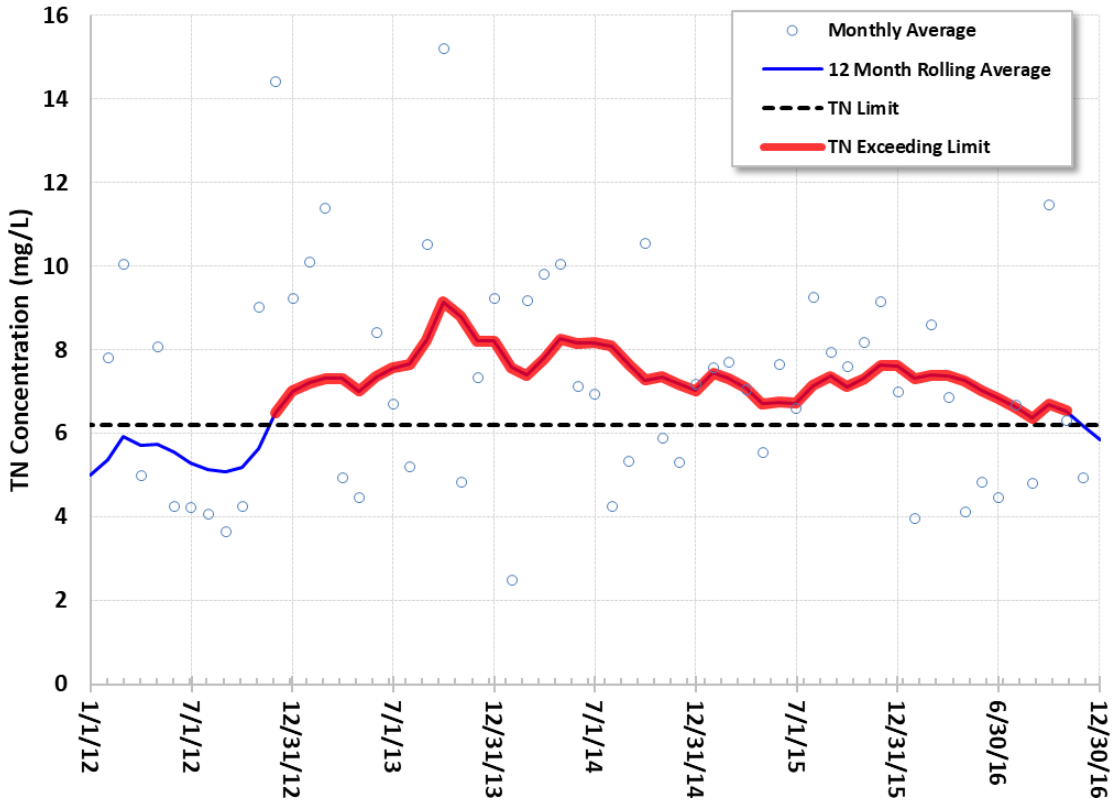
This goal would meet the TMDL target of a 25% reduction in TN loadings from baseline loadings, since the estimated load to the Connecticut River from out-of-basin point sources would be 15,192 lbs/day based on EPA's 2006 analysis of out-of-basin point sources to the CT River Watershed (see 2017 Fact Sheet Table 3 and Attachments G and H). This is less than the TMDL target of 16,254 lbs/day, allowing for additional non-POTW point source loadings as well as any possible new point source discharges.



Cumulative Distribution of 12 Month Rolling Average of SRWTF Influent Flows.

Why 2,534 lbs/day as a Discharge Limit will Require SRWTF to Upgrade

Since 2,534 lbs/d is an annual average load based on a 12-month rolling average of both effluent flow and TN concentration, the TN concentration limit is actually 6.2 mg/L for wet weather periods when the 12 month rolling average flow is around 49 MGD. Plotting the 12-month rolling average TN concentration data (Figure below) indicates that **there are 48 months (80% of the time during 2012-2016) when the TN concentrations (12-month rolling average) are greater than 6.2 mg/L.** This means there is an 80% chance that SRWTF will violate its permit if any of these months was in a wet period when 12 month rolling average influent flows were 49 MGD or higher. To comply with this perceived permit limit, the only option for SWSC is to upgrade the SRWTF to an advanced biologic nutrient removal (BNR) process which could potentially require a large sum of capital budget, with undue financial burden to the rate payers while achieving minimal or no environmental benefit. This type of financial impact would also affect other Commission initiatives, such as the CSO LTCP program and infrastructure renewal program.



Cumulative Distribution of 12 Month Rolling Average of SRWTF Influent Flows.

Failure of EPA to provide an allowance for TN attenuation in the Connecticut River:
In proposing optimization requirements for SWSC (in the Revised Draft Permit, through an effluent limitation), EPA has made no allowance for attenuation. However, the Agency has done so with regard to other permits. In particular, the Northfield Mount Hermon School wastewater treatment facility. This facility discharges to the Connecticut River, and is regulated under NPDES Permit No. MA0032573. In the Draft Permit Fact Sheet, pages 16-17 of 41, EPA states:

"The Northfield Mount Hermon WWTF discharges to the Connecticut River, which drains to the Long Island Sound…Due to the relatively small contribution of the discharge and its relatively distant location from Long Island Sound, EPA estimates that the nitrogen discharged from the facility is attenuated within the Connecticut River and its tributaries and is not contributing to the dissolved oxygen impairment in the Long Island Sound…In order to ensure that the out-of-basin total nitrogen wasteload allocation prescribed in the Long Island Sound TMDL continues to be met, the draft permit includes average monthly reporting requirements for total nitrogen…"

Attenuation is one of the many factors evaluated during TMDL development and is critical to the establishment of appropriate WLAs. Inasmuch as SWSC asserts that individual WLAs for out-of-basin dischargers, such as the Northfield Mount Hermon WWTF, have not been established in the TMDL, and that attenuation for out-of-basin dischargers was not evaluated as part of the TMDL document, yet EPA provides that attenuation may be accounted for in the determination of a need for a water quality based effluent limit, SWSC requests that EPA provide an allowance for attenuation to the SRWTF.

Absent EPAs ability to provide a study demonstrating that no attenuation of total nitrogen occurs between the discharge from SRWTF and the Long Island Sound, SWSC requests that an allowance for attenuation be provided. SWSC would be willing to provide a technical evaluation determining the attenuation of TN, if requested by EPA, and included as part of an evaluation of TN impacts on the LIS from SRWTF, and the subsequent basis for regulatory control (if any) of TN from SWSC.

Request: SWSC strongly objects to the imposition of a total nitrogen effluent limitation. Were EPA to insist on a nitrogen effluent limit, the only substantiated approach would be to base it directly on the LIS TMDL, which would be 5,429 lbs/day, or 9.71 mg/l. The SWSC's preference is to have this load or concentration expressed as an optimization goal. For the reasons included above, included elsewhere in this comment letter, and included in previous comment letters, SWSC asserts that EPA has not provided a regulatory, environmental, scientific or economic basis to establish such a limitation. SWSC requests EPA modify the Revised Draft to reflect an optimization goal for nitrogen:

If EPA prefers a daily concentration optimization goal, then a TN optimization goal of 8 mg/L would be most appropriate.

If EPA instead prefers a loading goal on a 12-month rolling average basis, then that goal should be 2,954 lbs/day.

Response 47

See General Response and Response 46.

Nitrogen attenuation refers to the loss of nitrogen that occurs during tributary river transport between the point of discharge and the point of impact. Attenuation is predicated on the idea that some degree of nitrogen removal due to permanent uptake or denitrification occurs in the river. A permit issuer does not have an obligation to impose higher effluent limits based on attenuation (or dilution). *In re City of Attleboro Wastewater Treatment Plant*, 14 E.A.D. 398, 423-428 (EAB 2009). Whether to account for those factors is committed to EPA's discretion. A 2008 study, discussed in the General Response, section III, demonstrated that there is little or no attenuation of nitrogen in the Connecticut River. EPA relied on outdated assumptions used prior to this study in developing the Northfield Mt. Hermon permit. EPA expects that nitrogen requirements in Northfield Mount Hermon's next permit reissuance will be consistent with the watershed wide approach described in the General Response. Since Northfield Mount Hermon's design flow, at 0.45 MGD is less than 1 MGD, the permit will include a requirement to optimize facility operation to minimize the discharge of nitrogen, but no nitrogen effluent limit.

EPA is not convinced by the arguments presented in the comment that the facility cannot meet the new effluent limit using its existing facility. First of all, the effluent limit in the Final Permit (2,794 lb/day) is higher than the effluent limit analyzed by the commenter (2,534 lb/day) because, in responding to comments EPA revised its approach and based the final permit effluent limit on a performance based concentration (5 mg/L) at design flow,

rather than the highest annual loading of recent years. See the General Response for a discussion of the final permit limit derivation.

Moreover, EPA disagrees with the assumptions made in the analyses used to demonstrate non-compliance. The effluent limit is a loading based annual average and does not rely on the facility meeting a certain concentration year-round. Rather, it can be reasonably assumed that effluent concentrations will vary depending on season (temperature) and flow. The limit is an average of the most recent 12 monthly average nitrogen loads, not a calculation based on a rolling average annual flow and a rolling annual average concentration.

However, if SWSC cannot meet the new nitrogen effluent limit by optimizing the operation of its existing processes, a compliance schedule, implemented through an administrative order, may be developed to allow the time necessary to make any necessary facility upgrades. The Permittee may contact EPA Region 1's Enforcement and Compliance Assistance Division for more information.

Comment 48

Page 6 of 25, Part I.A.1. Footnote 9, Incremental Increase in Total Nitrogen Mass Loading Limit: SWSC agrees with EPA to allow an incremental increase of total nitrogen mass loading allocation due to combined sewer overflow (CSO) reduction, as a result of the Commission's Long-Term Control Plan (LTCP) implementation effort.

Request: SWSC supports retaining the provision on increases due to CSO reductions, but suggest that its location in the permit be moved. SWSC requests to move the following from Part I.A.1. Footnote *9 to Part I.H.1.a.Special Condition section: "*Upon the completion and documentation of each currently planned combined sewer overflow project, the permittee may request an incremental increase in the total nitrogen mass loading limit. The maximum allowable net increase for each project is listed in Attachment E. The request must be made in writing to EPA and MassDEP and shall include certification by a licensed civil engineer that the project has been completed as described in the Springfield Water and Sewer Commission's ("SWSC") 2014 Integrated Wastewater Plan (which incorporates the Long Term Control Plan) and is fully operational. Any variations in the project from that described in the SWSC's 2014 Integrated Wastewater Plan shall be identified and described in sufficient detail for EPA to determine the effect on the total nitrogen mass loading limit."*

Response 48

The TN loading in the Final Permit includes all the CSO reductions planned since the effluent limit has been revised to a level greater than the effluent limit combined with the 4 project-specific load increases proposed in the revised Draft Permit. As the entire design flow was used in the derivation of the effluent limit, it includes any CSO discharges directed to the WWTF, consistent with the allocations planned for other out-of-basin CSO dischargers that divert CSO flow to their WWTF. Therefore, the Final Permit does not allow for additional increases in the TN load discharged from the facility upon completion of CSO reduction projects, as provided in Attachment E to the revised Draft Permit.

Comment 49

Page 12 of 25, Part I.H.1. Nitrogen Special Condition – Incremental Increase for Future Growth: The loading optimization target is based on existing populations of the member communities, and does not account for ongoing future population and economic growth in the area. The SRWTF's design flow is 67 million gallons per day, which includes additional capacity for future population and economic growth. Currently, the permitted average annual flow capacity is 67 MGD, and EPA has calculated the discharge mass loading limit for BOD and TSS based on a concentration limit and design flow of 67 MGD (i.e. average monthly BOD discharge mass limit: 67 MGD x 30 mg/L x 8.34 = 16,763 lbs/day). However, EPA has proposed total nitrogen mass loading values that are all calculated based on existing average daily flow conditions without factoring in future population and economic growth.

Request: SWSC requests an allowance for incremental increases of total nitrogen loads from additional sanitary sewer flow increases due to population and economic growth within the service area of SRWTF. The Commission requests EPA to consider adding the following to Part I.H.1.a.:

"*The permittee may request an incremental increase of Total Nitrogen load resulting from additional flows due to population and economic growth within the SRWTF service area. The request must be made in writing to EPA and MassDEP and shall include a report demonstrating the increase is due to population and economic growth."*

Response 49

As discussed in the General Response, the approach to deriving TN effluent limits for out-of-basin dischargers to LIS has been revised and is now based on the total design flow. As the Facility currently discharges at a level well below their design flow, growth is already taken into account.

EPA acknowledges that if the influent flow and/or incoming TN loading increases substantially in the future, due to population or industrial growth, it may be necessary to enhance the treatment system to achieve lower TN concentrations in order to continue to meet the total load limit of 2,794 lb/day. EPA observes that this is a longer-term planning consideration, and whether the Facility will actually reach or approach design flow is unknown. The Agencies recommend that Springfield incorporate this fact into their future planning.

Comment 50

Page 12 of 25, Part I.H.1. Nitrogen Special Condition – Additive Loads from Consolidation of Other POTWs: EPA acknowledges that SWSC is currently exploring the possibility of consolidating wastewater flows from other facilities throughout the Springfield area, and diverting them for treatment at the SRWTF. Affording the SWSC the opportunity to explore this possibility could achieve significantly greater reductions in nitrogen loadings to the Connecticut River. Notably, other facilities in the Springfield area do not have the capacity or technology to achieve advanced

nitrogen removal that the SRWTF is designed for and currently achieves. In that regard, any diverted flows will receive a much higher level of nitrogen removal at the SRWTF than they currently receive at surrounding facilities. The overall reduction in nitrogen loadings from the closure of less technologically-advanced facilities in the Springfield area, would far outweigh any incremental increase of TN loads to the larger and more technologically-advanced SRWTF. Allowing additional TN loads allocated to the consolidated facilities to be transferred to SRWFT will better incentivize SRWTF to explore these possibilities, which would result in considerable overall load reductions within the watershed. This approach is consistent with the objectives of the TMDL, as there would not be a net increase in the TN load being discharged to the Connecticut River.

Request: SWSC requests the addition of TN loads resulting from consolidation of other POTWs in Springfield area. The Commission requests EPA to consider adding the followings to Part I.H.1.a.:

"*Should a facility divert some or all of its flow to the SRWTF the TN mass loading optimization benchmark that was allocated to that facility shall be added to Springfield's TN optimization benchmark of 2,954 lbs/day."*

Response 50

Should a facility divert some, or all, of its flow to the SRWTF for treatment, the Permittee may submit a request to EPA requesting a permit modification, in which case EPA will evaluate all relevant information available at the time the request is made (i.e., consideration of facility data, etc.) and make a determination based on this evaluation. This will leave the Permittee in the same position as under their proposed structure, but will allow EPA to make record-based permit adjustments in light of flow diversions that have actually materialized. Under the current approach to nitrogen loading limits used to develop this and other recent Massachusetts permits in the Connecticut River watershed is to manage the aggregate loading to the Long Island Sound, EPA finds that it would reasonable to reallocate a loading derived for one POTW to another if the responsibility for treating the wastewater were also to be moved and the overall result were that combined nitrogen loading from the receiving facility were equal to or less than the combined allocation.

Comment 51

ATTACHMENT E Allowable TN Load Increase: EPA included a table summarizing Allowable Incremental TN Load Increase Per Project. However, the incremental increase was based on CSO reductions described in the 2014 Integrated Wastewater Plan, which was based on a typical year precipitation condition and a median TN concentration based on a nationwide survey. These values are not representative of the actual CSO loading conditions for SWSC's sewer system, especially when annual rainfall volume, event intensity, and duration are far greater than the selected "typical" year of 1976.

Request: SWSC requests EPA to revise the table based on 2011 precipitation conditions and an average TN concentration of 9.5 mg/L. The table should be revised as shown below:

Project	Allowable Incremental TN Load Increase Per Project (lbs/day)
Phase I - Washburn CSO Control	17.4
Phase I.5 - CSO 012/013/018 Modifications	0.0
Phase 2 - York Street Pump Station and River Crossing	72.3
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	1.9
Future CSO Abatement Projects	TBD*

* To be determined based on CSO volume reductions as a result of the future CSO Abatement projects under 2011 model year condition and average TN concentration of 9.5 mg/L.

The technical and regulatory basis for this request is provided below in comments on Table 1 of Fact Sheet Supplement, 3. Total Nitrogen.

Response 51

EPA based the projected values in Attachment E to the revised Draft Permit on information that was included in the 2014 Integrated Wastewater Plan (IWP), which incorporates the LTCP, that was submitted to EPA by the SWSC. As stated in the above comment, the 2014 IWP and the LTCP includes information relative to expected reductions in CSOs as various projects are completed based on a typical year precipitation condition, which was selected by the SWSC to be 1976. EPA was unaware of concerns regarding the suitability of using 1976 the typical precipitation year. This year is cited extensively throughout the IWP, LTCP and in the annual CSO reports that are submitted by the SWSC, including the report for calendar year 2018 which was submitted in March 2019.

EPA expects permittees to account for a variety of factors, including representative conditions, when selecting models and information that will be used to drive decisions relating to the selection and implementation of projects aimed at reducing and elimination CSO discharges. Further, this information is also used by the regulatory agencies in evaluating the appropriateness of the selected levels of CSO controls and for compliance purposes. Should the Permittee have reason to believe that a selected model, or other information, that served as the basis for the selection of specific CSO controls is flawed, they should notify EPA and MassDEP and work expeditiously towards submitting a revised LTCP and IWP for review, as the application of a different “typical year” may result in assumptions that differ than those established in the LTCP.

However, as discussed in Response 48, the provision to allow incremental increases in the effluent limit has been removed from the Final Permit.

Comment 52

Page 4 of 5, 2018 Fact Sheet Supplement, 3. Total Nitrogen, Table 1 Projected Connecticut River Interceptor (CRI) Annual CSO Volume Reductions and Allowable Incremental TN Load Increases Following Completion of Planned CSO Mitigation Projects: Table 1 listed all the data sources used to calculate the Allowable Incremental TN Load Increase Per Project table, in permit Attachment E. However, these values are not representative of the actual CSO loading conditions for SWSC's sewer system when annual rainfall volume, event intensity and duration are far greater than the selected model year of 1976. In addition, the table is incorrect for calculating Phase 2 and Phase 3 projects.

Request: SWSC requests EPA to revise the table based on 2011 precipitation conditions and an average TN concentration of 9.5 mg/L. Table 1 should be revised as shown below:

Project	Baseline Condition (CRI Total) (MG/Year)[1]	Estimated Annual CSO Volume Following Project Completion (MG/year)[2]	Estimated CSO Volume Reduction From Baseline Conditions Following Project Completion (MG/Year)[3]	Allowable Incremental TN Load Increase (Lbs/Year)[4,5]	Allowable Incremental TN Load Increase (average Lbs/day)[5,6]
Phase I - Washburn CSO Control	861	781	80	6,333	17.4
Phase I.5 - CSO 012/013/018 Modifications	861	781	0	0	0.0
Phase 2 - York Street Pump Station and River Crossing	861	448	333	26,396	72.3
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	861	439	9	682	1.9
Total Load Increase				**33,411**	**91.5**

[1]Baseline Condition (model year 2011 – Connecticut River Interceptor (CRI) Totals)
[2]Estimated Annual CSO Volume Following Project Completion based on model scenario runs under 2011 precipitation conditions.
[3]Estimated CSO Volume Reductions From Baseline Conditions Following Project Completion = (Baseline Condition CSO Volume Following Project Completion (MG/Year)
[4]Allowable Incremental TN Load Increase (lbs/day) = [Estimated CSO Reduction From Baseline Conditions Following Project Completion (MG/Year) * Assumed TN Concentration in combined sewage (5 mg/l) * 8.34]
[5]Estimated TN Concentration in Combined Sewage – based on review of typical TN concentration in CSO of similar systems.
[6]Allowable Incremental TN Load Increase (lbs/day) = [(Allowable Incremental TN Load Increase (lbs/year)) * (1 year/365 days)]

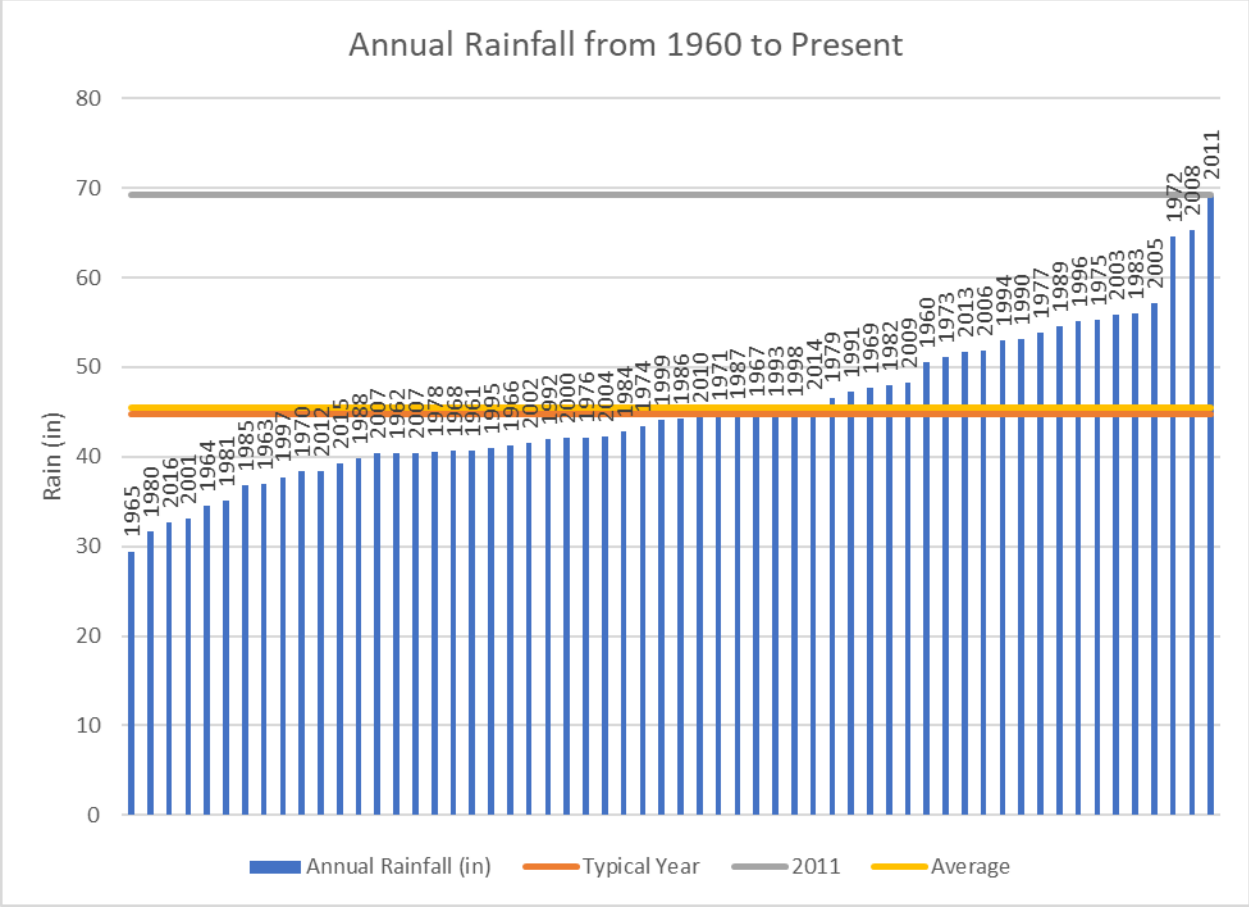
The technical and regulatory bases for this request is described below:

Total Nitrogen Concentration in CSO is Typically 9 -10 mg/L

Total nitrogen concentrations in CSO discharges are specific to the sewer system and characteristics of the sewer service area. Concentrations are also highly dependent on climate conditions and storm event conditions with respect to when the samples were taken. It is for this reason the 2004 report to Congress EPA cited in the permit has a wide range of TKN with the highest concentration up to 87 mg/L. SWSC conducted a literature review of TKN/TN concentration in CSO discharges from communities in the northeast region and found typical concentrations in the 9-10 mg/L range. Therefore, an average of 9.5 mg/L is used for calculations of incremental increases in mass loading. A review memorandum is attached to this comment letter to support this analysis.

Combined Sewer Overflow Volume Reduction Shall be Calculated using a More Recent Model Year Precipitation Conditions

Historical rainfall totals between 1960 and 2017 are presented in the Figure below. The typical year and average total rainfalls are identified in orange and yellow, respectively. The year 2011 was identified as the wettest on record with almost 70 inches of rainfall, as compared to a total rainfall of approximately 46 inches in an average year.



Permit conditions need to take into consideration the range of conditions that may be present, and should be based on the maximum conditions a permittee can meet. Therefore, the 2011 annual precipitation, representing maximum conditions, should be used as model year basis for CSO

reductions. That is, in any given year, the possibility of exceeding the selected conditions are within a low expectation of probability.

The SWSC InfoWorks CS model was simulated with 2011 precipitation conditions. Under baseline conditions, the annual CSO volume is 861 million gallons.

The Commission has recently completed Phase I of the LTCP and Phase 2, the York Street Pump Station and River Crossing, are in the 90% design phase. The Commission's IWP outlined the annual CSO reduction by phase, as presented in the Table below. This table outlines the cumulative percentage of CSO reduction by volume (MG) between Phase 1 (9%) through the 3rd phase of the plan at 49%.

Using these phased CSO reduction percentage estimates, along with the total annual CSO volumes simulated by the SWSC InfoWorks CS model, the cumulative CSO volume reductions during the 2011 model year are summarized in table below.

Project	Date	Phase	LTCO CSO Reduction	
			CSO Volume Reduction By Project (%)	Cumulative CSO Volume Reduction (%)
Phases 1-1.5	2012-2016	1	8%	9%
Phase 2: York Street Pump Station and River Crossing	2015-2020	2	41%	48%
Phase 3: Locust Transfer Structure/Conduit and Flow Optimization in Mill System	2020-2022	3	1%	49%

Response 52

See Response 51.

COMMENTS SUBMITTED BY THE TOWNS OF AGAWAM, EAST LONGMEADOW, WEST SPRINGFIELD AND WILBRAHAM (THE "CO-PERMITTEES")

IX. Comments submitted by Christopher J. Golba, Superintendent, Department of Public Works, Town of Agawam, Massachusetts, by letter dated February 9, 2018

Comment 53

The Springfield Water and Sewer Commission ("SWSC") has prepared extensive comments regarding the Draft National Pollutant Discharge Elimination System ("NPDES") permit ("Permit") dated November 15, 2017, for the Springfield Regional Wastewater Treatment Facility ("SRWTF") (see attached). The Draft NPDES Permit (MA0101613) would supersede the current SRWTF NPDES Permit MA0101613 and would also incorporate regulation of the 23 CSOs located in the

City of Springfield (currently regulated under NPDES Permit MA0103331). In addition to the named permittee (SWSC), the Draft Permit is also issued to six Co-Permittees, including the Town of Agawam, all of which contribute wastewater to the SRWTF.

We would like to express our concurrence with the comments on the draft permit prepared by SWSC, in particular those comments that are relevant to regulation of the co-permittees. In addition, we request that compliance with Parts C, D and E be extended to 36 months following the effective date of the permit ("EDP"). Our Town did not apply to be regulated under this permit, does not own or operate a wastewater treatment facility, and has never before been regulated by a NPDES wastewater permit. The Draft Permit requirements represent a new, significant burden for our Town, and we would need to collaborate with the other co-permittees to perform many of the requirements together in order to minimize costs and ensure consistency. The schedule proposed in the Draft Permit dictates compliance milestones that are unrealistic for us given these considerations.

We urge EPA to withdraw this Draft Permit and revise the Permit to incorporate the comments prepared by SWSC, as well as extending compliance for co-permittees to 36 months following the EDP.

Response 53

EPA has considered the comment. Please see Response 1.

With respect to the commenter's request that compliance with Parts C, D, and E be extended to 36 months, the deadline for complying with these requirements remains unchanged in the Final Permit, as the commenter has not identified any specific impediments to meeting this requirement within the time frame established in the permit. Any relevant work and information relative to operation and maintenance of the collection system (i.e., mapping, staffing information, ongoing operation and maintenance programs, etc.) that has already been conducted by the Permittee and co-permittees may be used to develop the Collection System Operation and Maintenance Plan (O&M) and to satisfy the requirements in Part I.D. of the permit. The requirement to develop and implement a plan to control I/I to the sewer system is consistent with a similar requirement in Massachusetts regulations at 314 CMR 12.04(2), so all co-permittees likely, by now, already have an appropriate plan, or one that can be adapted to meet the permit requirement here. To the extent any of the co-permittees still encounter difficulties in meeting the permit deadlines, they are encouraged to contact EPA's Enforcement and Compliance Assurance Division to discuss compliance assistance.

X. Comments submitted by Bruce Fenney, Superintendent, Public Works, Town of East Longmeadow, by letter dated February 9, 2018

Comment 54

The Springfield Water and Sewer Commission (SWSC) has prepared extensive comments regarding the Draft National Pollutant Discharge Elimination System (NPDES) permit (Permit) dated November 15, 2017, for the Springfield Regional Wastewater Treatment Facility (SRWTF). The

DRAFT NPDES Permit (MA0101613) would supersede the current SRWTF NPDES Permit MA0101613 and would also incorporate regulation of the 23 CSOs located in the City of Springfield (currently regulated under NPDES Permit MA0103331). In addition to the named permittee (SWSC), the Draft Permit is also issued to six Co-Permittees, including the Town of East Longmeadow, all of which contribute wastewater to the SRWTF.

Listed below please find comments relating to the Draft Permit submitted on behalf of Town of East Longmeadow. We wish to empathize the importance of our comments that are relevant to regulation of the co-permittees, in particular those that request compliance with Part C, D and E of the Draft Permit. The Town of East Longmeadow did not apply to be regulated under this Permit, does not own or operate a wastewater treatment facility, and has never before been regulated by an NPDES wastewater permit. The Draft Permit requirements represent a new, significant burden for our Town, and we will need to collaborate with the other co-permittees to perform many of the requirements together in order to minimize costs and ensure consistency. The proposed schedule in the Draft Permit dictates compliance milestones that are unrealistic for us given these considerations.

We urge EPA to withdraw this Draft Permit and revise the Permit to incorporate the comments prepared by SWSC, as well as extending compliance for co-permittees to 36 months following the effective date of the permit.

- Inconsistency in Co-Permittee Requirements: The draft permit page 1 of 24 states:

  "…are co-permittees for Part C, Unauthorized Discharges; Part D, Operation and Maintenance…and Part E, Alternate Power."

  However, the Fact Sheet page 5 of 34, Part I, paragraph three states:

  "These municipalities are co-permittees for certain activities pertaining to proper operation and maintenance of their respective collection systems (see Part I.C. and I.D of the draft permit."

- Part C, of the Draft Permit Unauthorized Discharges

  1. The draft NPDES permit is issued to the SWSC, but also to the six towns identified above. While none of these towns own or operate a CSO (all CSOs are located in the City of Springfield), their collection systems contribute to a combined system, and all wastewater from the six municipalities eventually flows to the SRWTF for treatment and discharge (or overflows at a CSO in Springfield).

  2. On page 13 of 24, Part C, the draft permit states:
     "The permittee and co-permittees are authorized to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Part I.A.1 and Part I.B.1 of this permit."

While the above language is common to NPDES permits across the country, of concern in this permit is the inability to clearly identify liability with a single permit issued to seven entities (SWSC and six co-permittees).

For example, it is our understanding that discharge location 042 has historically been treated as an emergency bypass, and we will request that it continue to be treated so. However, if the U.S. Environmental Protection Agency (EPA) fails to grant an affirmative defense for its use, SWSC may be subject to fines and penalties, yet the cause of the unpermitted discharge is excessive flows [perhaps due to illegal cross-connections, failure to implement inflow and infiltration (I/I) control, etc.] from any one or more of the six co-permittees.

- Part D, of the Draft Permit Operation & Maintenance of Sewer System.

    1. Maintenance Staff:
       The Town of East Longmeadow currently has no staff to carry out any of the maintenance, repairs, and testing obligations in this section.

    2. Preventative Maintenance Program:
       The Department of Public Works currently has a comprehensive preventative maintenance plan for all of our stations, but will have to expand this practice based on the new draft NPDES Permit. This will also require additional staffing not currently funded.

    3. Infiltration/Inflow:
       We currently have an aggressive I&I program funded through our sewer enterprise fund. The Town of East Longmeadow will have to increase sewer rates to offset all the additional information required under the new permit.

    4. Collection System Mapping:
       The 30 month timeline is unrealistic and would like to extend, at a minimum to 48 months.

    5. Collection System Operations & Maintenance Plan:
       The six month goal for implementation of the aforementioned plan is unrealistic and needs to be extended.

- Part D, of the Draft Permit Alternative Power Source.

    1. Careful consideration needs to be taken under this section of the draft permit along with more defined terms and understanding of this new regulation. We have many satellite pump stations along with four large pump stations. To provide an alternative source of power is a considerable expense and the Town of East Longmeadow is not prepared for these increased operational costs.

- Liability:

1. The draft permit page 1 of 24 states*: "The permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own and operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E."*

The issue of liability for violations of the permit when such a permit is issued to multiple entities is a concern. For example, Part C prohibits unauthorized discharges; however, given a situation where wastewater from Town A flows through Town B, and a sewer line blockage in downstream Town B causes surcharging in the sewer system with an ultimate unauthorized discharge in the upstream collection system of Town A, who is liable under the co-permittee arrangement? A second example would be if the SRWTF experiences an unauthorized bypass due to excessive flows. Which of the six named co-permittees would be held responsible for causing or contributing to that discharge? What if CSO discharges increase at a particular location over time? Would the permittee, a co-permittee, or combination of co-permittees be responsible?

EPA must consider removing the co-permittees from this permit and seeking other means to regulate the upstream towns. If that is not possible, EPA must clarify if the co-permittees are responsible for Part C, Part D and Part E, or are only responsible for Parts C and D; critically examine language regarding liability and modify it to limit SWSC's liability for non-compliance with the permit related to co-permittees; and clarify the liability of co-permittees for hydraulically connected systems. After careful review of the Draft NPDES Permit and all its new extremely prescriptive regulations and legal requirements, I have many concerns of its adaptability for the Town of East Longmeadow. There are many new operational, financial and legal responsibilities that need extensive review to implement everything within the new permit.

Response 54

EPA notes that the Draft Permit is correct in identifying the parts of the permit that apply to the co-permittees as Part I.C (Unauthorized discharges), Part I.D. (Proper Operation and Maintenance), and Part E. (Alternate Power Source). Part I.E. was inadvertently excluded from the description of the permit conditions that apply to the co-permittees that was included in the Fact Sheet. This correction is noted herein for the record.

With respect to the commenter's concurrence with the SWSC comments regarding regulation of co-permittees, including issues concerning liability, and request that EPA revise the permit consistent with SWSC's comments, EPA refers the commenter to Response 1. Liability would only attach to a co-permittee if they fail to comply with permit requirements pertaining to the collection system within their specific jurisdiction owned or operated by them and, in the scenarios described by the commenter above, in the event that failure caused or contributed to the unauthorized discharge.

With respect to the commenter's concerns over maintaining adequate staffing levels for carrying out a preventative maintenance program, these requirements are consistent with those already required of the Permittee to conform with State regulations at 314 CMR 12.03

(Operations of Treatment Works and Sewer Systems) and 314 CMR 12.04 (Maintenance of Treatment Works and Sewer Systems). Similarly, the requirements in Parts I.C.D.E. are consistent with the those already required of the Permittee to conform with State regulations set forth at 314 CMR 12.0 (Operation, Maintenance and Pretreatment Standards for Wastewater Treatment Works. Therefore, the schedule for complying with the requirements in the Draft Permit remains unchanged in the Final Permit. Any work that the Permittee and co-permittees have conducted in accordance with 314 CMR 12.0 may be used to satisfy the requirements of Parts I.C.D. and E. See Response 15 and Response 53.

EPA acknowledges and supports that the Permittee is already engaged in preventative maintenance of the sewer system and activities to reduce I/I. EPA agrees that current and on-going work related to the requirements in the Part I.D. may be included in the O&M Plan. Indeed, the Town's current and ongoing activities may satisfy the Permit requirements if they address each of the elements listed in Part I.D.2-3. EPA evaluates compliance based on the conditions set forth in the Final Permit.

To the extent any of the co-permittees still encounter difficulties in meeting the permit deadlines or other requirements, such as the requirement to have alternative power, they are encouraged to contact EPA's Enforcement and Compliance Assurance Division to discuss compliance assistance.

XI. Comments submitted by Robert J. Colson, Director of Public Works, City of West Springfield, Massachusetts, by letter dated February 12, 2018

Comment 55

The Springfield Water and Sewer Commission ("SWSC") has prepared extensive comments regarding the Draft National Pollutant Discharge Elimination System ("NPDES") permit ("Permit") dated November 15, 2017, for the Springfield Regional Wastewater Treatment Facility ("SRWTF"). The Draft NPDES Permit (MA0101613) would supersede the current SRWTF NPDES Permit MA0101613 and would also incorporate regulation of the 23 CSOs located in the City of Springfield (currently regulated under NPDES Permit MA0103331). In addition to the named Permittee (SWSC), the Draft Permit is also issued to six Co-Permittees, including the City of West Springfield, all of which contribute wastewater to the SRWTF.

Enclosed please find comments relating to the Draft Permit submitted from the SWSC. We wish to empathize the importance of these comments we support that are relevant to regulation of the co-permittees, in particular those that request compliance with Part C, D and E of the Draft Permit. Our City did not apply to be regulated under this Permit, does not own or operate a wastewater treatment facility, and has never before been regulated by a NPDES wastewater permit. The Draft Permit requirements represent a new, significant burden for our City, and we will need to collaborate with the other co-permittees to perform many of the requirements together in order to minimize costs and ensure consistency. The proposed schedule in the Draft Permit dictates compliance milestones that are unrealistic for us given these considerations.

We urge EPA to withdraw this Draft Permit and revise the Permit to incorporate the comments prepared by SWSC, as well as extending compliance for co-permittees to 36 months following the effective date of the permit.

Response 55

With respect to the commenter's concurrence with the SWSC comments regarding inclusion of co-permittees in the permit, EPA refers the commenter to Response 1.

With respect to the commenter's request that compliance with Parts C, D, and E be extended to 36 months, echoing the comment made by SWSC, the schedule for complying with the requirements in the Draft Permit remains unchanged in the Final Permit. See Response 15 and Response 53.

To the extent any of the co-permittees still encounter difficulties in meeting the permit deadlines, they are encouraged to contact EPA's Enforcement and Compliance Assurance Division to discuss compliance assistance.

XII. Comments submitted by Edwin W. Miga Jr., P.E., Director, Department of Public Works, Town of Wilbraham, Massachusetts, by letter dated February 8, 2018

Comment 56

Our Town did not apply to be regulated under this permit nor does it operate a wastewater treatment facility. The Draft Permit requirements represent a new, significant burden for our Town. It has always been our understanding that regionalization approach to wastewater treatment was preferred over individual treatment systems. When Wilbraham had a Waste Water Treatment Plant it discovered that it was not financially feasible to provide the extensive treatment necessary to discharge to the river. From a financial and environmental perspective, we acknowledged and embraced the regionalization approach and joined the Springfield system. Springfield holds the permit and is the responsible party for meeting requirements of the permit.

Wilbraham being labeled a co-permittee does not change this responsibility. By contract with the SWSC we are accountable for our actions. Wilbraham is meeting all financial obligations for all improvements made in their system to accommodate Wilbraham flow. Additionally, the SRWTF regulates our wastewater and we are obligated to comply. As an example, SRWTF oversees an Industrial Pre-Treatment Program in Wilbraham as well as meters and analysis of our flows. We are also regulated by the MassDEP. By example Mass 314 CMR 12.0 requires us to conduct an I&I study to be submitted to DEP in December.

We urge EPA to withdraw this Draft Permit, revise the Permit to incorporate the comments prepared by SWSC, and remove the Town of Wilbraham as a co-permittee from the final permit.

Response 56

EPA has considered the comment and refers the commenter to Response 1. The Town's sewer system and appurtenances fall within the definition of treatment works under the Act, and it is responsible for a set of limited activities within its jurisdictional boundaries.

To the extent any of the co-permittees still encounter difficulties in meeting the permit deadlines, they are encouraged to contact EPA's Enforcement and Compliance Assurance Division to discuss compliance assistance.

COMMENTS SUBMITTED BY CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION ("CTDEEP")

XIII. Comments Submitted by Denise Ruzicka, P.E., Director, Water Planning and Management Division, Bureau of Land Protection and Water Reuse, CTDEEP, by Letter Dated February 7, 2018

Comment 57

Nitrogen

In response to hypoxic conditions in LIS, Connecticut and New York jointly developed a Total Maximum Daily Load ("TMDL") for nitrogen which was approved by the Federal Environmental Protection Agency ("EPA") in April 2001. Please update the permit fact sheet to more accurately reflect this information relative to the LIS TMDL.

In addition to a number of nitrogen reduction efforts required of Connecticut and New York, the TMDL specifies a % reduction in the estimated baseline nitrogen load from states upstream of Connecticut (MA, NH, and VT). Because the baseline load was determined using an average discharge concentration (15 mg/l) and design flows (monitoring data was not available at that time), the baseline load was grossly overestimated. As a result, Massachusetts met the 25% reduction in 2005, however, little if any actual nitrogen removal efforts were implemented. EPA does not allow such "credits" regarding nitrogen load reductions to LIS where Connecticut and New York are concerned.

Upon review of the draft Permit, CTDEEP concludes that the proposed three options for total nitrogen optimization benchmarks are inadequate to address nitrogen loadings to LIS. All three proposed options only establish a benchmark and fail to require an actual permit limit. In addition, the proposed benchmark for option 1 exceeds the baseline cap of 1, 648 pounds/day by 631 pounds/day. Although EPA makes note of this in the fact sheet, EPA fails to explain how allowing an exceedance from the baseline cap, established using 2004-2005 data is acceptable. How can EPA justify allowing a greater discharge of nitrogen than the Springfield WWTP is capable of obtaining?

We would also like to bring to your attention, the Enhanced Implementation Plan ("(EIP") which allowing the Springfield WWTP to exceed the baseline cap directly violates. In 2011, the five watershed states (CT, NY, MA, NH, VT) and EPA agreed upon an EIP. The plan requires EPA and

the tributary states to implement a tributary state wastewater treatment plant ("WWTP") permitting strategy with a goal of essentially capping existing WWTP total nitrogen loads at or near existing levels until agreement is reached on final allocations and how they will be achieved.

Finally, the draft permit requires the WWTP to optimize in order to achieve the greatest performance of nitrogen removal. However, the permittee has demonstrated greater nitrogen removal capabilities and as such, the WWTP is already poised to comply with this condition. In essence, the WWTP will be permitted to discharge more nitrogen than it is capable of removing upon issuance of this draft permit.

A study of nitrogen loading trends to LIS from New England states found that approximately 50% of the nitrogen load to LIS comes from areas north of Connecticut (Mullaney and Schwarz, 2013). This study was based on 10 years (1999-2009) of data and compared computed nitrogen loads from four gaging stations located along the Connecticut-Massachusetts border to the total nitrogen load computed from gages (and estimates) within Connecticut. As Connecticut continues to achieve greater nitrogen reductions at its WWTPs, the load from Massachusetts and other upstream states (New Hampshire and Vermont) consequently becomes a greater portion of the load and warrants full attention. In addition, very little nitrogen attenuation occurs in the Connecticut River (Smith et al. 2008) so this entire total nitrogen load from upper basin states is essentially transported directly to LIS.

We would also like to take this opportunity to call attention to EPA's effort to advance a nitrogen reduction strategy for LIS (see December 23, 2015 letter from the EPA Regional Administrator). You may already be aware of this effort as EPA recently accepted technical comments from stakeholders for Subtasks F & G (Application of Technical Approach for Establishing Nitrogen Thresholds and Allowable Loads for Three LIS Watershed Groupings: Embayments, Large Riverine Systems, and Western LIS). As noted in CTDEEP's comment letter "We continue to support moving all three watershed groupings forward simultaneously and anticipate that any further work with these initial thresholds will include all three watershed groupings".

We feel this permit is an important step to advance the implementation of strategic nitrogen reductions throughout the LIS watershed and to demonstrate EPA's commitment to lead through example. The inclusion of a "benchmark" in a National Pollutant Discharge Elimination System ("NPDES") permit following the collection of 16 years of data is inadequate. CTDEEP notes that EPA took 12 years to issue a draft discharge permit for the Springfield WWTF. The permittee has demonstrated the ability to meet a certain nitrogen discharge. Therefore, it is appropriate for EPA to require a hard nitrogen load **limit** of no more than 1,648 pounds/day in Section I.A.1 of Springfield's NPDES permit. We formally request that the final permit include an enforceable nitrogen permit limit in Section I.A.1.

Response 57

As noted in the above comment, the Fact Sheet did not credit the State of New York as having contributed to the development of the Total Maximum Daily Load ("TMDL") for addressing nitrogen-driven eutrophication impacts in Long Island Sound along with the State of Connecticut. See *Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (CT DEP and NYSDEC 2000).

Although Fact Sheets are not modified following the public comment period, this clarification is noted herein and is part of the administrative record.

EPA and DEP withdrew all three of the proposals for nitrogen controls included in the 2017 Draft Permit and replaced them with a new proposal in the revised 2018 Draft Permit for the reasons stated in the Fact Sheet Supplement issued with revised Draft Permit.

With respect to the remaining concerns raised in the above comment, see the General Response at the beginning of this Response to Comments, which provides a comprehensive explanation of the overall approach EPA has adopted to address TN effluent limitations for out-of-basin POTWs discharging to Long Island Sound, and encompasses the concerns raised in the comment.

Comment 58

Combined Sewer Overflows

We note that in regard to Combined Sewer Overflows (CSOs), EPA merged the formerly separate NPDES permits for the WWTP and CSOs. We understand that an Administrative Order (EPA AO 14-007) to reduce CSOs was executed in September 2014. We also note that the Integrated Wastewater Plan (IWP) submitted in April 2014, which updates the May 2012 Final CSO Long Term Control Plan, has not been approved by EPA.

One of the conditions for CSOs is that the Nine Minimum Controls be implemented, which includes maximizing combined flows to the WWTP. However, the April 2014 IWP does not adequately address how combined flows will be maximized to the WWTP in order to reduce CSO discharge volume. How much additional combined flow will the upgrade of the York Street Pump Station and Connecticut River Crossing pipes convey to the WWTP? How much will the annual CSO discharge volume be reduced as a result of these efforts?

Response 58

As pointed out in the above comment, Nine Minimum Control #4 requires the maximization of flow to the POTW. The information available to EPA regarding how this control will be implemented and achieved is that which was included in the 2014 IWP, which incorporates the 2012 Final Long Term Control Plan. Based on a review of this information, the completion of the Phase 2 CSO projects (which includes the upgrade of the York Street Pump Station and the Connecticut River Crossing pipes) is expected to result in a reduction of annual CSO discharge flows by 224.3 million gallons per year.

Comment 59

Co-Permittees

Additionally, EPA is adding six co-permittees to the draft permit. The Towns of Agawam, Longmeadow, East Longmeadow, Ludlow, West Springfield and Wilbraham, Massachusetts own and operate sanitary wastewater collection systems that discharge flows to the Springfield Regional

WWTP for treatment. Chicopee was not added to the permit because less than 1,000 residents in the Town of Chicopee are served by sewers discharging to the system. These municipalities are co-permittees for certain activities pertaining to proper operation and maintenance of their respective collection systems. How will EPA and Springfield ensure that these towns will properly maintain their systems? Are these towns conducting any projects to reduce infiltration and/or inflow? How will EPA through the permit achieve reductions in wet weather flows and CSO discharges?

Response 59

The sewer system operation and maintenance requirements in Parts I.C, D and E of the permit require specific activities related to collection system maintenance as well as annual reporting documenting collection system maintenance activities completed for the previous year. These activities include the control of infiltration and inflow (I/I) which will reduce wet weather flows to the treatment facility. The requirement to develop and implement a plan to control I/I to the sewer system is consistent with a similar requirement in Massachusetts regulations at 314 CMR 12.04(2), so all co-permittees likely, by now, already have an appropriate plan, or one that can be adapted to meet the permit requirement here.

With regards to Chicopee: sewer system operation and maintenance provisions are already included in the permit for that city's Water Pollution Control Facility (permit number MA0101508) and apply to the whole collection system, regardless of the wastewater treatment plant to which the sewage is directed,

Comment 60

Public Hearing

CTDEEP supports the Connecticut Fund for the Environment's request (see CFE comment letter dated February 7, 2018) for a public hearing.

Response 60

EPA acknowledges the commenter's support for a public hearing. As noted in the introduction to this Response to Comments, a public hearing was held on April 24, 2018.

XIV. Testimony Provided by Denise Ruzicka, P.E., Director, Water Planning and Management Division, Bureau of Land Protection and Water Reuse, April 24, 2018

Comment 61

Thank you for the opportunity to comment in person on the draft permit being issued to the Springfield Water & Sewer Commission (SWSC) for the Springfield Regional Wastewater Treatment Plant and combined sewer overflows in the City of Springfield, Permit No. MA0101613. My name is Denise Ruzicka, I am the Director of the Water Planning and Management Division, within the Water Protection and Land Reuse Bureau of the Connecticut Department of Energy and

Environmental Protection (CTDEEP). I am submitting testimony on behalf of CTDEEP Commissioner Robert J. Klee.

Long Island Sound is considered a regional resource. The Long Island Sound (LIS) drainage basin includes the Connecticut River watershed in Massachusetts. The Connecticut River, which is Connecticut's namesake, is the longest and largest interstate river in New England. Discharges from the Springfield Regional Wastewater Treatment Plant discharge into the Connecticut River and promptly flow into waters of the State of Connecticut. These discharges have a direct bearing on the water quality and health of the river as it flows through Connecticut and to Long Island Sound. It is for those reasons and the need to protect Connecticut's important resources and our citizens that we are here today.

We have two major concerns, the first is that there is no enforceable nitrogen limit in the Springfield draft permit. The 2001 EPA-approved Total Maximum Daily Load (TMDL) analysis identified the importance of managing nitrogen loads to remedy hypoxia in LIS. Given the critical relationship between nitrogen loading and hypoxia in LIS, we are asking EPA to add a twelve month rolling average nitrogen load limit of 1,648 pounds per day into the table on Page 4 in Part I.A.1 of the draft permit, as we requested in our written comments dated February 7, 2018. This limit is something that the Springfield Regional Wastewater Treatment Plant has previously demonstrated it can readily achieve without additional capital investment.

Our second concern is the slow pace and inadequate on-the-ground actions regarding the reduction of combined sewer overflows (CSOs) in Springfield that discharge into the Connecticut River. As you are aware, most of Springfield still has one pipe that collects both stormwater and sewage. When it rains, these single pipes become overfilled, releasing a combination of stormwater and untreated raw sewage directly into the Connecticut River and two of its tributaries, the Chicopee and Mill Rivers. Current efforts are focusing only on the CSOs that go directly to the Connecticut River, but the eleven (11) CSOs that continue to discharge to the Chicopee and Mill Rivers (and ultimately end up in the Connecticut River) will not be further addressed.

These discharges of combined stormwater and sewage are a cause of bacteria impairments to the Connecticut River at the state line, contributing to water quality problems in Connecticut that raise concerns in the citizens' use of the river. These CSOs also add an unaccounted load of additional nitrogen to the Connecticut River that travels to LIS, worsening the hypoxia problem there even further.

Bacteria from CSOs are causing and contributing to water quality problems in the Connecticut River. CTDEEP requests that EPA require SWSC to complete more testing in the Connecticut River downstream at the Massachusetts/Connecticut state border, by adding a permit condition.
In addition, we are requesting that EPA require that SWSC address the CWA goal of eliminating CSOs. We encourage EPA to use all means, including but not limited to enforcement actions, to assure that SWSC achieves steady and meaningful progress in reducing CSO discharges. SWSC's current pace of CSO reduction is unacceptable and not in keeping with similar communities in Connecticut and elsewhere.

Further details in support of our two major concerns are provided within the following written testimony.

Detailed comments

Nitrogen

In our submittal of written comments (dated February 7, 2018), CTDEEP raised the concern that there is no nitrogen limit in the Springfield draft permit. The 2001 EPA-approved TMDL analysis identified the importance of managing nitrogen loads to remedy hypoxia in LIS.
On the top of Page 18 of the Permit Fact Sheet, EPA clearly states that: "It has been determined that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including low dissolved oxygen." However, more recent plans and reports do not appear to have been considered in the preparation of this draft permit. This includes EPA supported efforts, such as the *Long Island Sound Nitrogen Reduction Strategy*, (EPA Region 1 and Region 2, December 2015); and the *Watershed Synthesis Section: A Preliminary and Qualitative Evaluation of the Adequacy of Current Stormwater and Nonpoint Source Nitrogen Control Efforts in Achieving the 2000 Long Island Sound Total Maximum Daily Load for Dissolved Oxygen*, (New England Interstate Water Pollution Control Commission, August 2014). Both have concluded that nitrogen discharges from wastewater treatment plants, as well as nitrogen from CSOs, continue to contribute to water quality violations in LIS. In addition, a study of nitrogen loading trends to LIS from New England states found that approximately 50% of the nitrogen load to LIS comes from areas north of Connecticut (Mullaney and Schwarz, 2013). Very little to no attenuation occurs in the Connecticut River (Smith et al., 2008) so this entire total nitrogen load from upper basin states is essentially transported directly to LIS.

Given the critical relationship between nitrogen loading and hypoxia in LIS, we are asking EPA to add a twelve month rolling average nitrogen load limit of 1,648 pounds per day into the table on Page 4 in Part I.A.1 of the draft permit, as we requested in our February 7, 2018 comment letter. This limit is something that the Springfield Regional Wastewater Treatment Plant has previously demonstrated it can readily achieve without additional capital investment. The draft permit requests more nitrogen monitoring (even though monitoring has occurred for the past 14 years) and establishes no permitted nitrogen limits, but instead offers a nebulous "benchmark" approach. A nitrogen "benchmark" provides no legal assurance that the Springfield Regional Wastewater Treatment Plant will optimize its nitrogen removal efforts. The term "benchmark" is neither defined nor used in the CWA, the nitrogen TMDL for LIS, or in EPA's nitrogen reduction strategy. A nitrogen "benchmark" is unenforceable, and is unacceptable.

Furthermore, the inclusion of only a "benchmark" in the permit would allow the Springfield Regional Wastewater Treatment Plant to lessen its efforts relative to nitrogen removal. In fact, recent data suggests that this is already occurring. The Permit Fact Sheet indicates that based on 2004-2005 data, the Springfield Regional Wastewater Treatment Plant was meeting EPA's TMDL waste load allocation (WLA) of a 25% aggregate reduction from out-of-basin nitrogen sources. Nitrogen out-of-basin point source loading information for the Connecticut River in 2004-2005 is provided in Attachment G of the Permit Fact Sheet. Out-of-basin sources include Massachusetts, New

Hampshire, and Vermont. Without a permit limit, there is no assurance that the TMDL reduction and any type of nitrogen removal will continue.

Recent data from the past five years show that the Springfield Regional Wastewater Treatment Plant is no longer meeting that reduction goal (on an individual plant basis). Page 19 of the Permit Fact Sheet indicates that: "The current annual average TN [total nitrogen] load is 631 lbs/day greater than the 2004-2005 estimated load from this facility." This directly violates the Enhanced Implementation Plan (EIP), which Massachusetts Department of Environmental Protection (MADEP) and EPA agreed to honor in 2011. This increased nitrogen loading over the last five years is the equivalent of backsliding and further demonstrates that, without a permit limit, there is no assurance that the Springfield Regional Wastewater Treatment Plant will meet necessary nitrogen reductions.

On Page 19 of the Permit Fact Sheet, EPA continues to say that "Applying the revised Springfield benchmark to the 2004-2005 baseline loading results in a revised estimated loading of 14,467 [lbs/day of nitrogen] for the other Massachusetts facilities discharging to the Connecticut River, which is still less than the TMDL target for the Connecticut River of 16,254 lbs/day (see Table 5)." However, the draft permit does not take into account recent point source data for the rest of Massachusetts, or for New Hampshire and Vermont.

On Page 21 of the Permit Fact Sheet, EPA states that "Based on current facility operation, the TMDL target of a 25% reduction in TN loadings from baseline loadings would be achieved, since recent data indicates that the estimated load to the Connecticut River from out-of-basin point sources has actually decreased well below the 2004-2005 estimate." No data have been provided in the draft permit to support this assertion. This also does not take into account the trend that EPA is currently pursuing to allow wastewater treatment plant nitrogen loads greater than the 2004-2005 baseline cap.

It is incumbent for EPA and MADEP to adopt a comprehensive nitrogen control plan for all the wastewater treatment facilities that discharge nitrogen to LIS via the Connecticut River, as it has been done in Connecticut and New York State. Yet here we are, in 2018, almost 20 years post-TMDL and there is no enforceable nitrogen reduction permit limits for wastewater treatment plants along the Connecticut River in Massachusetts. This is inconsistent with the LIS TMDL, which states on page 40 of the December 2000 document entitled *A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* that "[T]the enforceable mechanism to ensure reductions are attained will be state and federal permitting programs."

CTDEEP made similar comments regarding Springfield Regional Wastewater Treatment Plant's last permit and was ignored. It is unacceptable to wait, from issuance of this permit, another 5 years for EPA to do the right thing. We demand that EPA require the Springfield Regional Wastewater Treatment Plant to meet a nitrogen permit limit that maintains a level of treatment that we know it can already achieve, and for which will not require more capital improvements. Our request is more than reasonable. Anything less would suggest that EPA has set a lower bar for non-delegated states such as Massachusetts as compared to delegated states such as Connecticut and New York. Nitrogen WLAs for Connecticut and New York's wastewater treatment plants are established as pounds per day in timely issued and legal permits. Connecticut intends to aggressively seek all remedies should

EPA not follow the appropriate procedures and processes in its issuance of the Springfield NPDES permit by not including an enforceable permit limit for nitrogen.

Combined Sewer Overflows – CSOs

In Attachment D of the Permit Fact Sheet, we note that it appears that the volumes reported in 2016 are off by about three orders of magnitude when compared the other years' volumes. We request that the volumes reported in Attachment D be verified and revised as appropriate.

On Page 26 of the Permit Fact Sheet, EPA indicates that: "CSOs have been identified as a significant source of pollution to the Connecticut and Chicopee Rivers. See 2003 Connecticut River Water Quality Assessment Report (MADEP, 2003) and Chicopee River Watershed 2003 Water Quality Assessment Report (MADEP, October 2008)." No data are provided to quantify the volume of combined flow that will be removed from the Connecticut River and conveyed to the Springfield Regional Wastewater Treatment Plant as a result of upgrading the York Street Pump Station and Connecticut River Crossing pipes. No data are provided to show how much annual CSO discharge volume will be reduced as a result of these efforts.

CTDEEP requests that EPA add a permit condition requiring the SWSC to complete more river testing downstream at the Massachusetts/Connecticut state border. Bacteria from CSOs are causing and contributing to water quality problems in the Connecticut River. As we previously noted in our July 5, 2012 comment letter, the CWA and its regulations address the need for consideration of boundary and multijurisdictional effects on water quality. No NPDES permit may be issued when the imposition of conditions cannot ensure compliance with the applicable water quality standards and requirements of all affected States. The Permit Fact Sheet fails to demonstrate that the discharges from the Springfield Regional Wastewater Treatment Plant or the CSOs meet Connecticut Water Quality Standards. This is inconsistent with EPA's Clean Water Act (CWA) requirements.

The Integrated Wastewater Plan submitted by SWSC to EPA in April 2014, which updated the 2012 CSO Long Term Control Plan, has not been approved by EPA. The SWSC 2014 Integrated Wastewater Plan proposes a 40-year implementation schedule and a 3-month level of control for Springfield's CSOs. It does not appear that additional water quality sampling was performed for the 2014 Integrated Wastewater Plan. Again, we note that both the 2012 CSO Long Term Control Plan and the 2014 Integrated Wastewater Plan only focused on CSOs discharging to the Connecticut River. Four (4) CSOs remain to the Chicopee River and seven (7) CSOs remain to the Mill River, but no additional reduction efforts for these CSOs are planned.

Meanwhile, in the absence of EPA disapproving the 2014 Integrated Wastewater Plan, as it should, it appears to the regulated community that this CSO reduction plan is acceptable. As a result, consultants working in Massachusetts and Connecticut point to the SWSC 2014 Integrated Wastewater Plan as proof that EPA finds a 40-year implementation schedule and a 3-month level of control acceptable. Both the extended implementation schedule and paltry level of control are unacceptable. As we previously noted in another comment letter (dated December 4, 2014), EPA has pushed for shorter schedules and higher expenditure rates for similar Connecticut CSO communities, as well as higher levels of control.

Again, this implies a lower bar regarding CSO reduction for non-delegated states such as such as Massachusetts as compared to delegated states such as Connecticut. It is obvious that our repeated comments regarding this inequity have been ignored. It is imperative that EPA Region 1 demonstrate a level regulatory playing field and mandate a more aggressive CSO reduction strategy be undertaken in Springfield; the lack of which, has a direct negative bearing on the water resources of Connecticut.

Conclusion

For all the above reasons, as well as those included in our February 7, 2018 comment letter, we find that the draft permit as written is unacceptable. We are demanding that EPA Region 1 add a twelve month rolling average nitrogen load limit of 1,648 pounds per day into the table on Page 4 in Part I.A.1 of the draft permit. We are also demanding that EPA add a permit condition to complete more river water quality testing downstream at the Massachusetts/ Connecticut state border. We ask that the attached February 7, 2018 comment letter, along with this testimony dated April 24, 2018 be entered into the official hearing record.

Response 61

The Agencies agree that a total nitrogen effluent limit is necessary for this facility and other large out-of-basin dischargers to LIS. EPA and MassDEP withdrew all three of the proposals for nitrogen controls offered in the 2017 Draft Permit and replaced them with a new proposal that includes a total nitrogen effluent limit in the 2018 Draft Permit for the reasons stated in the Fact Sheet Supplement issued with the 2018 Draft Permit. Also see General Response.

With respect to the above comments regarding CSOs, EPA acknowledges that the notation for CSO discharge volumes for 2016 that were presented in Attachment D to the Fact Sheet should have been “gallons”, and not “1,000’s of gallons.” This correction is noted for the record (see Response 31).

Please see Response 58 regarding the reductions in CSO discharge volumes that are anticipated upon completion of the Phase 2 CSO projects (which includes the upgrade of the York Street Pump Station and the Connecticut River Crossing pipes).

With respect to the commenter’s request to include requirements in the permit to monitor CSOs and downstream segments of the Connecticut River for bacteria, such requirements have not been included in the Final Permit. Being the largest watershed in New England, there are many point and non-point source discharges to the Connecticut River which contribute to bacteria inputs which may, at times, impact water quality. In addition to such burdensome monitoring requirements being outside the scope of a NPDES permit, imposing requirements on only one of these sources to conduct such extensive monitoring would yield data that, in the absence of data from the other sources of bacteria inputs, would be of limited utility, since any water quality impacts are not the result of an isolated discharge. EPA does, however, support any additional sampling that the Permittee may choose to undertake, and they are encouraged to collaborate with both Massachusetts and Connecticut (as well as any other interested stakeholder) to develop and implement a program for sampling the reach of

the Connecticut River downstream from the SWSC's discharges at the state border. As stated in the above comment, CSOs negatively impact water quality in the Connecticut River. Part I.B.2.b. of the Final Permit prohibits discharges from CSOs from causing or contributing to violations of federal or state Water Quality Standards and as such, is protective of state water quality standards. Violations of this condition will be addressed through enforcement actions.

Although CSO projects on the Mill and Chicopee rivers were conducted in the 1990's and 2000's, EPA is aware that discharges from these CSOs exist and that they have exceeded the anticipated levels of control. The SWSC has expressed their intention to further evaluate these discharges as part of their ongoing CSO work.

With respect to the concerns expressed in the above comment regarding the adequacy of the permittee's CSO reduction strategy and the Integrated Waste Plan (IWP), EPA's Region 1's Enforcement and Compliance Assurance Division (ECAD) continues to work with the permittee on the development of this document and any adjustments that may be necessary. The CSO Policy states that "Permittees should develop and submit [the] long-term CSO control plan as soon as practicable, but generally within two years after the date of the NPDES permit provision, Section 308 information request, or enforcement action requiring the permittee to develop the plan." 18688 Fed. Reg. at 18691. EPA issued an Administrative Order in September 2014,[48] which required the Commission to implement projects identified in its IWP (which incorporates the LTCP). EPA Region 1's ECAD continues to monitor implementation of the IWP and ensure that schedules are adjusted to reflect new information and evolving financial considerations as necessary and appropriate. Region 1's decision not to disapprove the Commission's IWP should not be construed to imply that Region 1 believes that implementation of the Plan without further adjustments and activity would necessarily result in cessation of discharges resulting in excursions from Massachusetts WQS.

EPA disagrees with the assertion that the permit fails to ensure protection of Connecticut water quality standards. The permit requires that the discharges from the WWTF "shall not cause a violation of the water quality standards of the receiving waters," Part I.A.1.a, and the discharges from the CSOs "shall not cause or contribute to violations of federal or state Water Quality Standards." Part 1.B.2.b. In other words, a discharge from either the WWTF or the CSOs which violates Connecticut water quality standards would not be permitted by this permit. Further, EPA understands that discharges from the CSOs have not been able to meet permit limits, especially with regards to bacteria. This is the subject of ongoing enforcement action taken by the Enforcement and Compliance Assurance Division. This permit does not allow for bacteria discharges that violate water quality standards.

Moreover, with regard to bacteria specifically, this permit contains numeric water quality-based effluent limitations for E. coli based on Massachusetts' water quality criteria found at 314 CMR 4.0. EPA has compared Connecticut's criteria for bacteria with Massachusetts' criteria and concluded that that Massachusetts' is at least as stringent.

[48] Letter from Susan Studlien, Director, Office of Environmental Stewardship, EPA Region 1, to Kathy Pedersen, Executive Director, Springfield Water and Sewer Commission, *Subject: NPDES Permit No. MA0103331; Administrative Order Docket No. 14-007* (dated Sept. 18, 2014).

XV. Comments Submitted By Denise Ruzicka, P.E., Director, Water Planning and Management Division, Bureau of Land Protection and Water Reuse, CTDEEP, by Letter Dated April 27, 2018

Comment 62

Mr. Joshua Schimmel, Executive Director of the Springfield Water & Sewer Commission (SWSC), commented at the public meeting before the hearing on Tuesday night that Springfield cannot implement as much CSO reduction work as communities in Connecticut, because Massachusetts does not have the same funding opportunities for wastewater improvement projects that are available to Connecticut. He specifically citing our 50% grant for CSO projects.

We wish to note that communities like Hartford are similar in size and economic condition to Springfield. If we compare the portion of project costs that are not subsidized by grants, the Metropolitan District (MDC) has spent over $320 million in the last five years and is expected to bid $190 million in new CSO contracts in the next twelve calendar months. Complete implementation of the TMDL by 2026 is expected to result in MDC paying for $1.5 billion of the overall $2.1 billion cost; compared to the $100 million dollars that Springfield has spent to date and the additional $183 million that is proposed for CSO control in the Connecticut River in the 2014 Integrated Wastewater Plan.

Also, the LTCP for MDC provides for the elimination of all CSO discharges in a typical year by the year 2029. This represents a reduction of one billion gallons of CSO discharges in a typical year. Meanwhile, it appears that 59 million gallons per year will continue to be discharged from Springfield's CSOs in a typical year after the last CSO project is completed in 2031. This demonstrates that Springfield is in no way doing an appropriate or commensurate amount of CSO reduction activities. The Environmental Protection Agency (EPA) must require Springfield to do more.

Response 62

EPA's ECAD continues to work with the SWSC on the implementation of the CSO controls identified in the LTCP and in refining future projects as needed so as to achieve the highest level of CSO control afforded by the Commission's financial capability.

Comment 63

We request that the NPDES permit require that Springfield's CSOs are tested for nitrogen on a recurring basis. The amount of currently unaccounted-for nitrogen loading to the Connecticut River and Long Island Sound (LIS) attributable to CSOs and other bypasses must be measured, recorded and annually reported through a permit condition.

Response 63

EPA requires monitoring in a NPDES permit when the data is necessary in order to make future permit decisions or compliance with a permit requirement. EPA does not anticipate

including numeric nitrogen effluent limits for CSO outfalls in the future. Although CSOs do intermittently contribute some nitrogen to the Connecticut River, the load is relatively small compared to the loading from the constant discharge from wastewater treatment plants. For example, in 2016, a very wet year, Springfield discharged 160 million gallons through its CSOs and (2017 Fact Sheet, page 27). At an estimated concentration of 5 mg/L total nitrogen (2018 Fact Sheet Supplement, page 4), the annual average load for 2016 from CSOs was 18 lb/day, or much less than the SWSC treatment facility outfall 001 annual average load of 1,643 lb/day. In addition, requiring monitoring of multiple CSOs for nitrogen would create a very challenging weather-driven sampling burden for the Permittee since there are no other CSO sampling requirements currently in the permit. Therefore, such a requirement has not been included in the Final Permit.

Comment 64

Due to the direct impact on the health of the public recreating and using the Connecticut River, EPA must protect our citizens by inserting into the NPDES permit required notification to Connecticut residents within two hours whenever any of the Springfield CSOs or other bypasses are activated. Notification based on predictive rainfall modeling would be sufficient. In addition, SWSC must be required to notify the CTDEEP when any bypasses occur including CSOs which reach the CT River due to the adverse impact on Connecticut Water Quality during such events. Timely notification is critical in order to protect public health through proper notification to the public.

Response 64

EPA released a revised Draft Permit for public comment on August 17, 2018 which contained revised public notification requirements. These requirements include an initial notification of a probable CSO discharge which shall be posted on a website within two hours of becoming aware (through modeling, modeling or other means) that a CSO discharge may have occurred, followed by a supplemental notification which shall also be posted on a website within twenty-four hours of becoming aware of the termination of a discharge. The initial notification shall include the CSO outfall number, location, date and time of the probable discharge. The supplemental notification shall confirm the occurrence of a CSO discharge and list the CSO outfall number and location where the discharge occurred. Lastly, the Revised Draft Permit requires an annual notification to be posted on a website to include the locations of the SWSC's CSOs, a summary of CSO activations and volumes, the status and progress of CSO abatement work, and information relative to the impacts of CSOs on water quality. See Response 42 for further discussion regarding public notification requirements.

Comment 65

We are concerned about the resistance the SWSC has raised regarding the reclassification of OF-42 as a CSO. If OF-42 is not a true CSO as Mr. Schimmel suggests in his February 9, 2018 comment letter, then this is an unauthorized plant bypass which cannot be permitted and must be treated as a violation when activated. Additionally, we request that CTDEEP be notified whenever this overflow is activated.

Response 65

As discussed in Response 3, outfall 042 is identified as a CSO in the Final Permit. Discharges from outfall 042 must be reported in accordance with the public notification requirements in Part I.B.3.g. of the Final Permit.

Comment 66

Finally, we wish to strongly reiterate our demand that this NPDES permit contain an enforceable nitrogen load limit of 1,648 lbs/day in the table on Page 4, Section I.A.1. According to the LIS TMDL, "The enforceable mechanism to ensure reductions are attained will be state and federal permitting programs." Note the imperative words of "enforceable mechanism".

Furthermore, the LIS TMDL states that concentration limits are not acceptable for tracking nitrogen. Note the following language taken directly from the LIS TMDL:

"CWA Section 303(d) requires the establishment of TMDLs for pollutants that will result in the attainment of water quality standards. As the term implies, TMDLs are often expressed as maximum daily loads. However, as specified in 40 CFR 130.2(I), TMDLs can be expressed in terms of either mass per time, toxicity, or other appropriate measures. As presented in Section V.C., nitrogen loadings throughout the year contribute to the pool of nitrogen available for uptake by phytoplankton. Hypoxia resulting from the ultimate decay of that phytoplankton is not sensitive to daily or short term nitrogen loadings. Daily load allocations are not necessary to ensure that standards are met. Instead, DO levels are a function of annual loading rates. While hypoxia generally occurs from June through September, nitrogen loadings throughout the year contribute to the pool of nitrogen available for uptake for phytoplankton. The LIS 3.0 model did not show a strong relationship between hypoxia and the seasonality of nitrogen loads to Long Island Sound that would warrant special attention to seasonal management of nitrogen. This is because algal growth occurs over seasonal and annual cycles where the total pool of nitrogen available is the critical factor. This supports the use of a maximum annual load used in this TMDL, rather than seasonal or daily load limits. Therefore, the TMDL/WLA [Waste Load Allocation]/LA [Load Allocation] is presented as an annual load in tons per year."

Therefore, based upon the LIS TDML, only a load limit for nitrogen is acceptable. A concentration limit would not be consistent with the intent of the LIS TMDL. Failure of the Springfield NPDES permit to contain a load amount for nitrogen is therefore, inconsistent with the established LIS TMDL.

Response 66

EPA released a revised Draft Permit for public comment on August 17, 2018 which contained a proposed nitrogen effluent limit of 2,534 lbs/day. This limit has been adjusted slightly in the Final Permit and is now established at 2,794 lb/day. This is described in the General Response at the beginning of the Response to Comments. Also see the General Response for a comprehensive explanation of the overall approach EPA has adopted to address TN effluent limitations for out-of-basin POTWs discharging to Long Island Sound.

XVI. Comments Submitted by Denise Ruzicka, P.E., Director, Water Planning and Management Division, Bureau of Land Protection and Water Reuse, CTDEEP, by Letter Dated October 15, 2018

Comment 67

Nitrogen

In regards to nitrogen, the revised draft permit now includes a total nitrogen limit in pounds per day as a monthly average based on the twelve month rolling average. This total nitrogen limit of 2,534 pounds per day is 11% higher than the optimization benchmark proposed in the initial draft permit and significantly greater than CTDEEP's request for a permit limit of no more than 1,648 pounds per day as contained in our previous comment letters and public hearing testimony. In addition, EPA acknowledges in its 2018 Fact Sheet Supplement that the proposed nitrogen permit limit is 886 pounds per day above the 2004-2005 baseline cap (1,648 pounds per day). It is inconsistent with EPA's own Nitrogen Reduction Strategy for Long Island Sound, for EPA to allow increased nitrogen loading to the Connecticut River above the 2004-2005 baseline cap. However, we recognize that EPA has taken an important first step in adding an enforceable nitrogen loading limit to the Springfield Regional Wastewater Treatment Facility permit. CTDEEP expects continued efforts to achieve and maintain the 2004-2005 baseline cap, including reduced total nitrogen limits in future permit renewals.

Response 67

As discussed more fully in overview of the General Response at the beginning of this response to comments, EPA is adopting a systemic permitting approach that includes continued optimization with effluent limits that provide assurance that long term loads will not increase. The permit allocates the current TN load so that: the aggregate out-of-basin TN load does not increase; effluent limits are annual average mass-based; consistent with the assumptions of the TMDL, no individual facility is left with an effluent limit that is not achievable using readily available treatment technology at the facility's design flow; and smaller facilities can achieve their limits through optimization. Under this systemic permitting approach, nitrogen effluent limits and/or optimization will be pursued for all facilities in Massachusetts (see Appendix A) and is designed so that nitrogen loadings to LIS will not increase.

Comment 68

Combined Sewer Overflows

The revised draft permit will require the permittee to provide the public and any other potentially affected party with notification of CSO activations in Springfield. We concur with this new requirement, which begins to align the Commonwealth of Massachusetts with several of its neighboring states (New York State, Vermont, and Connecticut) in timely public notification of occurrences of untreated wastewater discharges. These CSO discharges, of combined stormwater and sewage, are a cause of bacteria impairments to the Connecticut River and also contribute to water quality concerns, which compromise the use of the river by Connecticut's citizens. As such, timely notification is critical in order to protect public health. The permittee will also be required to

post an annual CSO report online, which will heighten public awareness of the regular frequency and durations of CSO activations into this portion of the Connecticut River, which quickly flows directly into our State of Connecticut.

CTDEEP, as a public landowner with properties along the Connecticut River is an affected party impacted by CSO releases. As such, notification to CTDEEP should be an expressed requirement of the Public Notification Plan and specifically noted as a condition in the final permit. In addition, all Connecticut River municipalities within a forty-eight-hour time of travel downstream of the Massachusetts/Connecticut border should also be specified for notification within the Public Notification Plan. The citizens of these downstream municipalities are all potentially affected parties.

We wish to reiterate a major item that was not addressed by the revisions to the draft permit. In testimony submitted on April 24, 2018, CTDEEP requested that EPA add a permit condition requiring the permittee to complete more water quality testing of the Connecticut River downstream at the Massachusetts/Connecticut state border. CTDEEP continues to believe that the amount of currently unaccounted-for nitrogen loading to the Connecticut River and Long Island Sound attributable to CSOs and other bypasses must be measured, recorded, and annually reported through a permit condition. In fact, additional nitrogen data is clearly needed since EPA used an assumed total nitrogen concentration of 5 milligrams per liter in CSOs to determine an allowable nitrogen load increase based on the completion of certain CSO abatement tasks. A calculation of nitrogen concentrations in Springfield CSO discharges must be based on factual data collection and not assumptions.

Response 68

The notification requirements contained in the revised Draft Permit, including the requirements in Part I.B.3.g. to provide the general public with notification of CSO are inclusive of all categories of the public, including the downstream State of Connecticut. Also see Response 42.

With respect to the commenter's concern regarding conducting monitoring in the receiving water, while EPA supports the collection of ambient water quality data to better understand nitrogen loadings to the Connecticut River, requiring the Permittee to do so is not necessary at this time, since a comprehensive monitoring program consistent with the commenter's proposal is already being carried out. EPA is aware of a collaborative effort between MassDEP, the USGS and the SWSC to conduct water quality monitoring in the Connecticut River to better understand nitrogen loading to the river. Specifically, MassDEP is funding the USGS to carry out a fixed flow and water quality monitoring network in the reach of the Connecticut River that flows through Massachusetts. This network includes two sites on the Connecticut River (Connecticut River at Northfield, MA (just south of the NH/VT border) & CT River at Thompsonville (near the MA/CT border)) and four sites along major tributaries to the Connecticut River (Chicopee, Westfield, Deerfield, and Millers Rivers. The SWSC is contributing funding for the Northfield streamflow gage and water quality site. The sites are visited monthly, except for the Northfield site, which is visited 42 times/year (roughly weekly). The sites are sampled/monitored for: nutrients, temperature, conductance, dissolved oxygen, pH, turbidity, alkalinity, *E. coli*, organic carbon, major ions, and trace elements.

Streamflow data collected at these sites will be used to estimate mass discharge and calculate nitrogen loading. The monitoring plan proposed by the commenter has a large scope that implicates many sources of nitrogen loading into the Connecticut River and waters downstream, and in EPA's judgment, is better suited to be carried out by federal and state agencies, rather than a single discharger. There may, however, be a role for individual dischargers to supplement these data collection efforts through targeted monitoring to fill any gaps that might become apparent. EPA reserves the right to include ambient monitoring requirements in future permits or to seek this information, as necessary, through its authority under section 308 of the Act.

EPA encourages CT DEEP to collaborate with MassDEP, USGS, the SWSC and any other stakeholders to develop and implement an ambient monitoring program.

Comment 69

Lastly, CTDEEP notes several inaccuracies in the 2018 Fact Sheet Supplement included with the revised draft NPDES permit. Information regarding these inaccuracies and mischaracterizations is included as Attachment 2 (shown below). CTDEEP respectfully insists that EPA make the appropriate corrections to this fact sheet as part of final permit issuance.

Attachment 2
2018 Fact Sheet Supplement Inaccuracies

Page 2, Section 2. Background:

CTDEEP supported Connecticut Fund for the Environment's request for a public hearing. CTDEEP did not independently request a public hearing.

Page 4, first paragraph:

The Springfield Water and Sewer Commission (SWSC) does not have a CSO Long Term Control Plan that has been approved by EPA or MADEP. CSO abatement measures are being undertaken pursuant to EPA Administrative Order Docket No. 14-007, which was issued in September 2014. It is therefore inappropriate and inaccurate to recognize SWSC's 2014 Integrated Wastewater Plan, which incorporates their CSO Long Term Control Plan, as directing CSO projects as these documents are unapproved and non-- binding. Recognition of these CSO projects must only cite EPA Administrative Order Docket No. 14-007.

Attachment A- Springfield Regional Waste Water Treatment Facility-Annual Average Total Nitrogen (2007-2017):

In this data table, columns for Total Nitrogen (mg/1) and Total Nitrogen (lbs/day) appear to be duplicated. Outliers are presented in red in the table, but it is indicated that outliers were omitted from any analysis. However, the methodology used to determine outliers is missing.

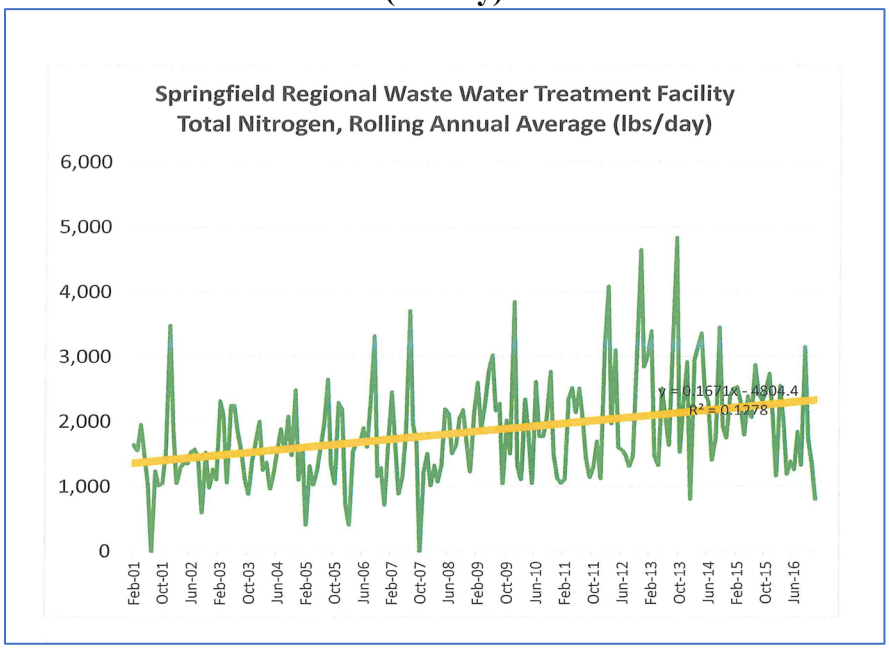
The 2018 Fact Sheet Supplement includes a table of total nitrogen data, as well as two charts used to plot the total nitrogen load over the previous ten years as an average annual load and

rolling average. Using total nitrogen data from the last ten years only, resulted in a gently sloping (or flattened) trend line. EPA use of the last ten years of data is a practice, not a requirement. In cases such as Springfield, where the permit period has been much longer, the entire period between permit issuance should be utilized for data analysis and permit review.

An upward trend in total nitrogen loading is evident, although the 2018 Fact Sheet Supplement states that it "may be increasing". In fact, the data and the upward trend is obvious-the nitrogen loads are increasing. When data from the entire dataset (2001- 2016) are plotted, the increase in total nitrogen loading is greater, since total nitrogen loading data for 2001-2007 was less than the most previous ten year dataset. A copy of the chart for the entire dataset is included as Attachment 3(shown below) for EPA's information. We request that EPA use the entire dataset for total nitrogen loading analyses, as it more fully represents the SRWWTF performance throughout most of its permit cycle.

Attachment 3: Chart of total nitrogen rolling annual average using data from 2001-2016. The chart demonstrates an increasing total nitrogen load over the course of 15 years.

Springfield Regional Waste Water Treatment Facility Total Nitrogen, Rolling Annual Average (lbs/day)



Response 69

This correction is noted herein for incorporation into the administrative record.
EPA notes the following clarifications and corrections to the Fact Sheet Supplement for the record:

Page 2, Section 2, Background: EPA acknowledges that CT DEEP supported the Connecticut Fund for the Environment's request for a public hearing.

While the IWP and LTCP have not been approved, they have not been disapproved. Administrative Order Docket No. 14-007 requires the implementation of elements of both the LTCP and IWP.

With respect to the total nitrogen data that was presented in the 2018 Fact Sheet Supplement, EPA notes that Attachment A included two columns labeled "Total Nitrogen (lbs/day)," with one of the columns including all of the data that was reported to EPA, and the other column excluding what appears to have been a reporting error, given that it was several magnitudes greater than the other results. EPA classified this single value from 10/31/2007 as an "outlier" and excluded it from any analyses

EPA acknowledges the remaining comments pertaining to the data presented in 2018 Fact Sheet Supplement.

COMMENTS SUBMITTED BY THE CONNECTICUT RIVER CONSERVANCY ("CRC")

XVII. Comments Submitted by Andrea F. Donlon, River Steward, CRC, by Letter Dated February 12, 2018.

Comment 70

The protection of existing uses is required under 40 CFR 131.12(a)(1). Below is our understanding of existing uses in the area affected by the SWSC system.

- Medina Street Boat ramp – located just upstream of the confluence with the Chicopee River. A popular launching point for motor boats, especially in May and June.
- Chicopee River confluence – a popular 24-hr/day fishing location during migratory fish season.
- Pioneer Valley Riverfront Club – youth and adult rowing programs, dragon boating, running and biking. See http://www.pvriverfront.org/
- West Springfield boat ramp – new cartop boat ramp installed in the last 10 years.
- Bondi's Island Boat Ramp – boat ramp located just upstream of the WWTP.
- Pynchon Point – cartop access located just downstream of the confluence with the Westfield River.
- Springfield Yacht Club – located in Agawam, providing boat slips for motor boats and sailboats. See https://www.sycc.website/ .
- Pioneer Valley Yacht Club – located in Longmeadow, providing boat slips for motor boats, sailboats, and rowing access. See http://www.ourpvyc.net/ .
- Riverfront Park and Fannie Stebbins Wildlife Refuge – Longmeadow public boat access, trails, and nature area that is now part of the Silvio Conte National Wildlife Refuge

- Bike paths along the CT River in Springfield and Agawam – ideally, people use the riverfront area in Springfield and Agawam for recreation, although it gets some amount of homeless housing activity. People fish from the banks right next to CSO outfalls and where the Mill River discharges into the CT River.
- Thompsonville Boat Ramp in Connecticut – improved boat ramp for all types of craft, located a couple miles downstream of the MA/CT state line.

Response 70

EPA concurs with the comment and agrees that existing uses must be protected and maintained. These include the wide range of existing uses in LIS.[49] As noted above, EPA has determined that compliance with antidegradation requirements comprise one basis for the TN effluent limitation.

Comment 71

This section of the river, though urbanized, also contains important fish and wildlife habitat. Many migratory fish pass by the section of Connecticut River affected by the WWTP and CSOs on their way upstream from Long Island Sound, either on their way to the Westfield River, the lower Chicopee River, or the Connecticut River to the fish lift at the Holyoke Dam. These fish include the endangered shortnose sturgeon. In 2017, migratory fish numbers that passed above Holyoke are as follows: 11 Atlantic salmon; 536,670 American shad; 875 blueback herring; 451 striped bass; 85 federally endangered shortnose sturgeon; 740 gizzard shad; 21,526 sea lamprey; and 17,037 American eels. In 2017, 6,000 shad; 5 Atlantic salmon; 5 river herring; and 249 sea lamprey were counted at the fish ladder on the lowermost dam on the Westfield River.

Response 71

During the development of the draft permit, EPA communicated with and received concurrence from the National Marine Fisheries Service (NMFS) regarding EPA's determination the reissuance of the SWSC's permit is not likely to adversely affect any listed species or critical habitat under USFWS' or NMFS' jurisdiction.

Comment 72

CRC supports the inclusion of co-permittees in this permit, the towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham.

Response 72

EPA acknowledges the comment.

[49] *See, e.g.*, https://portal.ct.gov/-/media/DEEP/coastal-resources/LIS_blue_plan/resourceanduseinventoryversion14september2019pdf.pdf.

Comment 73

CRC is glad that the permit has finally been updated to include a pathogen limit based on *E. coli* levels, rather than fecal coliform.

Response 73

EPA acknowledges the comment.

Comment 74

CRC supports the increased frequency of sampling of nitrogen compounds from monthly to weekly.

Response 74

EPA acknowledges the comment

Comment 75

CRC recommends that total phosphorus sampling be required as part of this permit. Eurasian water milfoil is present in the Connecticut portion of the Connecticut River. Understanding both the phosphorus and nitrogen inputs in the Connecticut River is important to understanding the spread of weeds like milfoil, as well as cyanobacteria outbreaks, if and when they occur.

Response 75

EPA agrees that a phosphorus monitoring requirement is appropriate in the Final Permit, for the reasons set forth in the comment. Currently, there are not sufficient phosphorus data available to determine whether the discharge has the reasonable potential to cause or contribute to an excursion of water quality standards in the receiving water. Therefore, EPA will require both effluent and ambient monitoring in the Final Permit and notes that this data will be useful in conducting a reasonable potential analysis in the next permit reissuance.

Effluent monitoring must be conducted twice per month from April through October of each year and reported as a monthly average concentration.

Ambient monitoring must begin in April of the first odd numbered year that occurs at least six months after permit issuance, and during odd numbered years thereafter, the Permittee shall collect monthly samples from April through October at a location in the receiving water upstream of the facility and analyze the samples for total phosphorus. Sampling shall be conducted on any calendar day that is preceded by at least 72 hours with less than or equal to 0.1 inches of cumulative rainfall. For the years that monitoring is not required, the Permittee shall report NODI code “9” (conditional monitoring not required).

Comment 76

Section I.B.3.b of the draft permit now requires that CSO structures and regulators be inspected once per month, down from twice weekly. Holyoke and Chicopee are required to do monthly inspection of their CSO structures also. CRC recommends the frequency be appropriate for finding and fixing problems that arise. We note that twice weekly may be burdensome, but once a month may not be often enough.

Response 76

EPA does not have any specific basis to conclude the inspection frequency of once per month would be inadequate, or that more frequent inspections would materially impact the operational integrity of the CSO structures. The Permittee is required to document any necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. Should EPA become aware of specific facts relating to this issue, it may revisit its determination. Part I.B.3.b. of the Final Permit remains unchanged from the Draft Permit.

Comment 77

Section I.B.3.d prohibits dry weather overflows. The previous CSO permit defined "dry weather" as less than 0.1 inch of precipitation or snowmelt in a calendar day. CRC recommends that a definition of dry weather be re-instated in the final permit.

Response 77

The definition of dry weather has been added Part I.B.3.d. of the Final Permit. Also see Response 10.

Comment 78

Section I.B.3.g requires a public notification plan. CRC notes that none of the CSO communities along the Connecticut River in Massachusetts appear to be doing any kind of public notification, despite permit requirements. We have been supportive of a sewage spill public notification bill going through the Massachusetts legislature. The proposed notification in the draft permit seems potentially unrealistic, given the challenge of having accurate data on when CSOs are discharging. We also think bypass flows and blended flows also be part of public notification. We'd be amenable to an automated notification built into the SWSC website, or a CT River centralized website, that would predict, based on rainfall data, where in the system there is likely to be a CSO activation (Chicopee River, Mill River, north/south CT River mainstem, and on the Bondis Island side). Making a table available to the public like that in Attachment D to the Fact Sheet (along with information on CSO outfall locations), would also be very helpful.

Response 78

See Response 42 regarding the notification requirements in the Final Permit.

Although the public notification requirements in the Draft Permit do not include the posting of information relative to bypasses of secondary treatment, EPA fully supports collaborative efforts towards making this information available through electronic means, such as those described in the above comment. However, since bypasses of secondary treatment are still subject to the permit effluent limits, there is no public risk associated with them beyond the normal discharge of effluent and no expectation that the public may want to change their behavior (such as temporarily avoiding contact recreation in the receiving water). Therefore, the permit has not been revised to include public notification for bypass events.

Comment 79

Section I.B.3.e requires National Weather Service precipitation data be recorded for each CSO discharge event. This information should also be included in the annual CSO report required in draft permit Section I.B.4 and the DMR data required in draft permit Section I.B.5.a.

Response 79

The Annual Report is a comprehensive summary made up of several elements, including a summary of all activities undertaken during the calendar year that demonstrate compliance with the Nine Minimum Controls, and a well as a summary of the CSO discharge and precipitation data that were collected in accordance with Part I.B.5. of the permit.

Comment 80

Section I.D.4 and I.D.5 requires a collection system map and a collection system operation and maintenance plan, respectively, and CRC thinks the requirement is appropriate.

Response 80

EPA acknowledges the comment.

Comment 81

Section I.G includes some new industrial pretreatment program requirements, of which we are supportive.

Response 81

EPA acknowledges the comment.

Comment 82

Section I.H. includes special conditions for nitrogen, which is new to this permit. The draft permit proposes an annual average mass discharge of total nitrogen capped at the existing average mass loading of 2,279 lbs/day. The Fact Sheet also provides two other alternatives for Total Nitrogen Optimization Benchmarks, based on a total nitrogen (TN) concentration benchmark of 8 mg/L, one including a loading benchmark based on existing flows, and one with no loading benchmark. CRC has discussed these three options with the SWSC and our understanding is that they prefer

Alternative 2, and feel that they can meet a concentration benchmark of 8 mg/L. Based on Attachment H to the Fact Sheet, the TMDL based on 2004-2005 used data from two years when the plant was discharging TN at concentrations between 0.988 mg/L (this seems wrong) and 7.29 mg/L. We aren't sure why, if Springfield has been doing N optimization, the concentrations have been consistently higher during the last several years.

The draft permit proposal of a loading benchmark of 2,279 lbs/day based on existing loading values is consistent with the way EPA has set Total Nitrogen limits for other NPDES permits in the Massachusetts part of the Connecticut River watershed. We looked at the nitrogen general permit in Connecticut, and see that the Hartford MDC facility, which has a design capacity of 80 MGD (20% larger than Springfield), has a limit of 2,377 lbs/day (only 4 % higher than the proposed limit for Springfield). This amounts to a TN concentration of 3.56 mg/L if you use the design flow of 80 MGD.

CRC notes that using existing flow to set limits is inconsistent with the approach EPA uses to establish loading values in all permits, such as BOD and TSS and also the "reasonable potential analysis for metals (Table 2 in the Fact Sheet). In this permit, they are all based on the design flow of 67 MGD.

CRC also notes that one phase in Springfield's Integrated Wastewater Plan is to provide 62 MGD pumping capacity at the York Street pump station and a new 48-inch diameter river crossing from the collection system to the WWTP, new storage, and conveyance for relief of the Connecticut River interceptor. If the end result of this is a higher capacity to treat larger volumes of wastewater, and EPA and MassDEP approved of this plan, then SWSC should not necessarily be penalized for treating extra volumes and not meeting TN targets based on the previous average flow of the plant.

If a loading value is calculated using the design flow of 67 MGD and a concentration of 8 mg/L, the total nitrogen would be 4,470 lbs/day. Should Springfield's flow increase, the permit would allow an unreasonably high TN loading amount, and for this reason, CRC does not support Alternative 2. Attachment H shows that between 2001 and 2016, the average total nitrogen concentration was 5.46 mg/L, and varied quite a bit from 0 (not a realistic number) to 15.23 mg/L. SWSC would seemingly not be able to meet an enforceable limit based on a 8 mg/L concentration limit consistently. Increasing the sampling from monthly to weekly will allow for better understanding of the performance, which emphasizes again that this permit should have been updated long ago.

CRC recommendation: CRC requests that EPA set an enforceable permit limit that is consistent with anti-backsliding provisions and is based on the design flow of the plant. We recommend that the average TN treatment performance of the facility over the past 15 years be used (5.5 or rounded up to 6 mg/L) to calculate a loading value of 3,073 lbs/day or 3,353 lbs/day, respectively. Then, subtract out a 25% reduction to be somewhat consistent with the approach of the current TMDL. This would mean a loading of 2,305 lbs/day (based on 5.5 mg/L) or 2,514 (based on 6 mg/L). Under current flow rates, the facility would seemingly have no problem meeting this limit. Under increased flows, the facility would also typically be able to meet this limit, when flows and concentrations are averaged over the course of the year. We believe this approach is consistent with the 2015 Long Island Sound Nitrogen Reduction Strategy -- capping WWTPs at or near current total nitrogen loads, yet also sensitive to the SWSC's plans to be sending and treating additional sewage volumes to the

WWTP. Future iterations of the permit will have the benefit of more data and a better understanding of nutrient loadings under the Nutrient Reduction Strategy.

Response 82

EPA and DEP withdrew all three of the proposals for nitrogen controls included in the 2017 Draft Permit and replaced them with a new proposal in the revised 2018 Draft Permit for the reasons stated in the Fact Sheet Supplement issued with the revised Draft Permit. Also see the General Response at the beginning of the Response to Comments Document.

Comment 83

We have several comments on the CSO overflow events and volumes shown in Attachment D. To start, we are assuming that the volumes for 2016 are an order of magnitude wrong, and were not properly converted to the 1,000's of gallons that the rest of the table was based on. We also recognize that estimation of CSO discharges is an imperfect science.

Construction to reduce discharges from the Mill River CSOs was completed in 2003. In 2000, the draft LTCP showed in Table 5-3 that the Mill River CSOs were discharging 134 times in a typical year with a volume of 61.21 million gallons (MG). Springfield's 2014 Integrated Wastewater Plan in Vol 1 appendix B indicates that the post-construction baseline activation frequency (based on 1976 as a typical year) is 15 times with a volume of 1.1 MG. Attachment D of the Fact Sheet indicates the Mill River system has been, in reality, discharging between 47-113 times per year, at a volume of 3.6-29.1 MG between 2012 and 2016. The latter year was one of the most severe drought years since the 1960's, and even then, annual discharge volumes were 300% more than designed. Improvement has been made, but not nearly as much as what was anticipated.

Construction to reduce discharges from the Chicopee River CSOs was completed in 2009. In 2000, the draft LTCP showed in Table 5-3 that the Chicopee River CSOs were discharging 92 times in a typical year with a volume of 22.55 MG. Springfield's 2014 Integrated Wastewater Plan in Volume 1 Appendix B indicates that the post-construction baseline activation frequency (based on 1976 as a typical year) is 3 times with a volume of 0.31 MG. Attachment D of the Fact Sheet indicates the Chicopee River system has, in reality, been discharging 32-82 times per year, at a volume of 1.9-11 MG between 2012 and 2016. The latter year was one of the most severe drought years since the 1960's, and even then, annual discharge volumes were 500% more than designed. Improvement has been made, but not nearly as much as what was anticipated.

Unless the Mill River and Chicopee River CSO abatement projects were not actually constructed as designed, it is evident that using 1976 as the typical precipitation year is a mistake. CRC implores that EPA and DEP abandon the use of 1976 as the "typical year" in projects from this point forward, and use modern day climate data and climate predictions to design CSO projects.

Response 83

See Response 31 regarding the CSO discharge volumes that were presented in Attachment D to the 2017 Fact Sheet.

See Response 61 regarding CSO discharges to the Mill and Chicopee Rivers.

With respect to the concerns raised in the above comment regarding the selection and use of 1976 in Springfield's IWP, EPA notes that the IWP is not an aspect of this NPDES permit. The City developed the IWP as part of its efforts working with EPA Region 1's ECAD to address CSOs. ECAD continues to work with the City to implement the IWP and make any adjustments as necessary and appropriate. The selection of this year as the "typical year" was made by the SWSC, and not EPA. EPA expects permittees to account for a variety of factors, including representative conditions, when selecting models and information that will be used to drive decisions relating to the selection and implementation of projects aimed at reducing and elimination CSO discharges as well as for evaluating compliance. Should permittees have reason to believe that a selected model, or other information, that served as the basis for the selection of specific CSO controls is not appropriate, they should notify both EPA and MassDEP and also revise and submit for review any LTCPs, IWPs and other relevant material for further review. Also see Response 51.

XVIII. Testimony Provided by Andrea F. Donlon, River Steward, April 24, 2018

Comment 84

My name is Andrea Donlon. I work for the Connecticut River Conservancy. We changed our name last year from Connecticut River Watershed Council to Connecticut River Conservancy.
But, we've been working for a long time on water pollution in the Connecticut River. We're a four state watershed organization. I'm the River Steward for the Massachusetts section of the river. And as an organization, we try to promote use of the river and protection of the river. And water quality is one of our key things that we work on.

So, we work with the Pioneer Valley Planning Commission on the website that is connecticutriver.us where we do bacteria testing on a weekly basis and post the results online 24 hours after sampling. And we have a lot of partner organizations that also post their data. And you can see the results online any time you're using the water.

So, we think that the Connecticut River is an amazing resource that the public should be able to use. And the public should have the information to see how is the river doing and how are people working on the river, making it better.

I submitted comments already to EPA, so I don't want to duplicate what I was saying in those comments. But, in terms of public access to information, for years, we were trying, pushing for an actual long term control plan. There was a draft in 2000 and it took 12 to 14 years to have the final version. And in the meantime, projects were being required that the public didn't have that much input on. Now, there's the integrated plan.

And for the nitrogen requirements that are proposed in the permit, most permits in the watershed have an optimization plan that's required to be submitted to EPA. And as you described earlier in

terms of the enforceability, you're going to be looking at the performance to the annual benchmark in concert with the optimization effort.

This permit, as drafted, doesn't require Springfield to submit an optimization plan. It sounds like there already has been one that EPA is aware of and DEP. But, the public hasn't really seen that. So, if that's going to be part of some enforceable mechanism, that creates a problem for the public to know, well, okay, what is the plan and how are they doing on meeting the plan. There's an annual submission requirement as all the permittees have on the progress towards the plan. And I guess, as a member of the public that tries to keep track of how various facilities are doing with their permit requirements, yes, these annual reports are public documents. And I could ask for them. But, it's not publicly posted anywhere. So, I would have to write a request.

So, I guess, in my opportunity to speak tonight, I want to suggest maybe that there could be a way, similar to the MS4 towns, they have their annual reports all posted online and you can find those. That perhaps, for CSO communities and the nitrogen communities, there could be some way of posting those reports online so that the public could be aware of how communities are doing in terms of meeting the optimization goals.

So that's mainly what I wanted to say tonight. Thank you.

Response 84

EPA acknowledges the comments and notes that EPA and DEP withdrew all three of the proposals for nitrogen controls that were included in the 2017 Draft Permit and replaced them with a new proposal in the revised 2018 Draft Permit which includes a total nitrogen effluent limitation as well as other conditions. Also see the General Response at the beginning of the Response to Comments, which provides a comprehensive explanation of the overall approach EPA has adopted to address TN effluent limitations for out-of-basin POTWs discharging to Long Island Sound.

Although the revised Draft Permit does not require the posting of reports, EPA fully supports collaborative efforts towards making this information available through electronic means, such as those described in the above comment. Additionally, all reports that are submitted in accordance with permit are available for inspection at EPA’s Boston office or by request.

XIX. Comments submitted by Andrea F. Donlon, River Steward, CRC, by letter dated October 15, 2018

Comment 85

Revised TN Loading Limit

EPA and MassDEP now propose to set an annual average TN loading limit of 2,534 lbs/day, rather than an optimization benchmark of 2,279 lbs/day. The revised draft permit would also allow the permittee to allow incremental TN increases after certain projects are completed by the permittee, as shown in Table 1 of the 2018 Fact Sheet Supplement and Attachment E of the revised draft permit.

CRC can support these proposed changes. The new limit is enforceable, reasonable for the permittee to meet, and in keeping with the Long Island Sound Nitrogen Total Maximum Daily Load (TMDL). While CRC thinks the allowable TN increases as laid out in Attachment E of the revised permit may not be necessary if the permittee can successfully optimize or reduce nitrogen, we do not object to the proposal.

Response 85

EPA acknowledges the comment. The incremental increases allowed in the 2018 Draft Permit have been removed since the effluent limit has been increased to 2,794 lb/day. The revised effluent limit accounts for any incremental increases anticipated from CSO projects, consistent with the loads allocated to other CSO communities in the LIS watershed. See General Response.

Comment 86

CSO Notification Requirements

EPA and MassDEP have updated the revised draft permit Part 1.b.3.g to require a public notification plan that will inform the public of probable CSO activation and termination of CSO discharges. CRC fully supports the proposed changes to the revised draft permit. As we said in our previous comments, CRC has never been notified of CSO discharges and we have not been able to find any press releases or websites that indicate public notification by the permittee of CSO discharges under the existing requirements of the current permit. We would like to see the Springfield Water and Sewer Commission work with EPA and MassDEP, with consultation from stakeholders, to work on developing a website that provides notification of CSOs and any other unplanned releases from their facility. The website could be set up to work in conjunction with other communities, akin to the one in CT and VT that report CSO and sewage spills across the state. CRC has supported new legislation in Massachusetts that would make this a requirement. See the CT web page at https://www.ct.gov/deep/cwp/view.asp?a=2719&q=525758&deepNav_GID=1654 (there is a link to a real-time map which brings up text about locations and volumes of recent CSO discharges) and the VT web page at https://anrweb.vt.gov/DEC/WWInventory/SewageOverflows.aspx.

Response 86

The public notification requirements in the revised Draft Permit were developed to provide relevant and accessible information on discharges from CSOs to any interested party. As such, the language in Part I.B.3.g.(1). of the Final Permit has been modified to require notifications of CSO activations to be posted on the Permittee's website. This requirement, which was included in the draft permit which went out for public comment on November 11, 2017, was inadvertently omitted from the revised Draft Permit.

EPA encourages collaboration between stakeholders and permittees on the development of a website for providing notification of discharges from CSOs. See Response 39.

Comment 87

CRC requests that EPA revise new permits issued from this point on, including this permit, to include a requirement that any report to be submitted to EPA and MassDEP be done so in electronic form with a submission email address. CRC has had a difficult time obtaining annual nitrogen optimization and annual CSO reports in the Connecticut River watershed from both agencies. If the reports were submitted electronically, they would be relatively easy to post online and/or provide to members of the public without a complicated FOIA process. Recently, CRC requested a series of annual nitrogen optimization reports, nitrogen optimization analysis reports, and annual CSO reports from MassDEP and EPA, and neither agency appeared to have all of them and it was difficult to obtain them all because some would have needed to be scanned. In contrast, annual NPDES MS4 reports in Massachusetts are all available on an EPA website and are easy to review.

Response 87

All reports submitted in accordance with the Final Permit shall be submitted in electronically to EPA, in accordance with Part I.I. of the Final Permit. This requirement represents a change from the 2005 permit which, among achieving other objectives, will centralize material, including data and reports, submitted in accordance with the permit. Although EPA is not able to meet the administrative burden necessary to post online annual CSO reports from all of the CSO communities for which it issues NPDES permits, Region 1's Office of Water is able to provide these reports upon request.

Comment 88

CRC continues to request that monthly Total Phosphorus testing be required in the new permit.

Response 88

See Response 75.

COMMENTS SUBMITTED BY THE CONNECTICUT FUND FOR THE ENVIRONMENT, INC., AND ITS BI-STATE PROGRAMS SAVE THE SOUND AND THE LONG ISLAND SOUND SOUNDKEEPER

XX. Comments Submitted by the Connecticut Fund for the Environment, Inc., and its Bi-state Programs Save the Sound and the Long Island Soundkeeper, by Letter Dated February 7, 2018

Opening Comment

The Connecticut Fund for the Environment and its bi-state programs Save the Sound and the Long Island Sound Soundkeeper, submit the following comments on the draft National Pollutant Discharge Elimination ("NPDES") Permit for the Springfield Regional Waste Water Treatment

Facility ("SWWTF") and 24 Combined Sewer Overflow (CSO) discharges at 24 CSO outfall locations. The draft permit integrates the Springfield Water and Sewer Commission's ("SWSC") two existing permits for the publicly owned treatment facility at Bondi Island and for 24 CSO outfalls in Springfield and Agawam that discharge into the Connecticut, Chicopee and Mill Rivers into a single permit. The draft permit replaces the existing permit for the SWWTF issued on December 8, 2000, which has been administratively continued without modification for the past twelve years, and the existing CSO outfalls permit issued in November 2009 and administratively continued on September 15, 2014. The draft permit also includes as co-permittees the six towns that operate sanitary waste water collection systems that discharge flows to the SWWTF.

The segments of the receiving waters in which the discharges occur have been designated by the Commonwealth of Massachusetts as a Class B water, warm water fishery, and, pursuant to Massachusetts Surface Water Quality Standards have the following uses: habitat for fish, other aquatic life, and wildlife; primary and secondary contact recreation; a source of public water supply (where designated and with appropriate treatment); suitable for irrigation and other agricultural uses and compatible for cooling and process use; and, have consistently good aesthetic value. These segments of the receiving waters are identified in the Massachusetts Surface Water Quality Standards with a CSO designator. The CSO designator for these waters indicates that these waters are impacted by the discharge of combined sewer overflows. Furthermore, the 2014 final Massachusetts Integrated List of Waters lists the specific segments of the Connecticut River where the WWTF discharges and the Connecticut, Mill and Chicopee Rivers where CSO outfalls are located as requiring a TMDL for impairments caused by *E. coli* and fecal coliform.

Response 89

EPA acknowledges the comment.

Comment 89

In light of the descriptions and designations of the receiving waters for these permitted discharges and the listing of segments of the receiving waters into which CSO outfalls discharge as requiring a TMDL for bacterial pollutants associated with CSOs, it is beyond belief that during the past two decades, EPA has not required elimination or at least a reduction in the number of CSO outfalls impacting these waters. The continued permitting of this number of CSO outfalls for another permit term is unconscionable. The number of permitted CSO outfalls should be extremely limited in light of the designated uses of these surface waters.

Response 90

A detailed discussion in Attachment A to this Response to Comments provides the background on the statutory and regulatory framework that applies to combined sewer overflows (CSOs). It briefly describes the Region's approach to key permitting and enforcement issues. EPA's ECAD continues to work with the SWSC towards the elimination and/or reduction in both the number of CSO outfalls and volumes of discharges of untreated wastewater to the Connecticut, Mill and Chicopee Rivers through enforcement actions aimed at achieving compliance with the CWA for CSOs as set forth in NPDES Permit No. MA0101331 (issued to the SWSC in 2009) and in the revised Draft Permit) and

the Permittee's LTCP (which has been incorporated into the 2014 IWP). Specifically, the 2014 IWP recommends capital improvements at the treatment plant and in its collection system. EPA's 2014 Administrative Order requires the implementation of the first three phases of the IWP, which, together, the Commission anticipates will reduce annual CSO activations by 45% and annual CSO volumes by 52%. Phase 1 (conveyance capacity and in-line storage enhancements) was substantially complete in 2014. Phase 2, begun in May 2019, is the York Street Pump Station and river crossing project. Phase 3 addresses additional conveyance and storage capacity.

Comment 90

The inclusion of communities that contribute sanitary wastewater flows to the treatment facility as co-permittees is a welcome modification to this permit, and we believe it will enhance compliance and enforcement of the permit.

Response 91

EPA acknowledges the comment.

Comment 92

Discharges from Springfield add to the nitrogen load in Long Island Sound and contribute to water quality violations in the Sound. On December 23, 2015, the administrators of EPA Regions 1 and 2 issued the Long Island Sound Nitrogen Reduction Strategy (the Nitrogen Strategy) in the form of a letter with attachments addressed to the Environmental Protection Commissioners of the states of New Hampshire, Vermont, Connecticut and New York and the Commonwealth of Massachusetts. The Nitrogen Strategy acknowledges the impact of nitrogen discharged from upstream states has on the Dissolved Oxygen Crisis in Long Island Sound and its impact on water quality standards for the Sound. Incredibly, the Long Island Sound nitrogen TMDL was not considered in the waterbody assessment for the receiving waters. The Clean Water Act grants EPA the authority to require conditions in NPDES permits which ensure compliance with the water quality standards of any other state[50]. Furthermore, in light of the First Circuit Court of Appeal's decision in *Upper Blackstone Water Pollution Abatement District* v. *EPA*, 690 F. 3d 9 (1st Cir. 2012) *cert. denied*, 133 S. Ct. 2382 (2013), EPA has the authority to require permit conditions that comply with water quality standards of downstream states. The impact to Long Island Sound from the nitrogen load from the discharges in this proposed permit must be taken into consideration by EPA.

Response 92

See the General Response, which describes the overall approach EPA has adopted to address TN effluent limitations for out-of-basin POTWs discharging to Long Island Sound.

[50] Clean Water Act § 401, 33 U.S.C. § 1341(a)

Comment 93

The Permit Fact Sheet indicates that in 2004-2005 the SWWTF was meeting the Connecticut Department of Energy and Environmental Protection's TMDL Waste Load Allocation (WLA) 25% aggregate reduction from baseline loadings to the Connecticut River above the Connecticut-Massachusetts border for nitrogen loading from out-of-basin sources. The data shows that SWWTF is no longer meeting that reduction goal. Is this the result of increased development in the area served by the SWWTF?

Response 93

Contrary to the assertion made in the above comment, the aggregate 25% reduction from baseline loadings to the Connecticut River above the Massachusetts-Connecticut border is being met (see Appendix A). While the data do indicate that overall loadings from the SRWTF have increased from 2004-2005, it is difficult to determine the extent to which increased development in the area served by the SRWT may have been a contributing factor.

Comment 94

The proposed new nitrogen loading discussed in the Fact Sheet shifts from a daily load limit for nitrogen to an annual average load limit. Did EPA consider the impact of this change to the Long Island Sound, especially in the months of April through September when hypoxia occurs in the sound?

Response 94

Neither the 2017 Draft Permit nor the revised Draft Permit contained a daily load limit for nitrogen. There has been no change to the Final Permit with respect to the total nitrogen limit being applied as an annual average load limit. EPA observes that TN impacts tend to occur over longer term periods, and certainly longer than one day, as explained in EPA's Nutrient Technical Guidance Manual: Estuarine and Coastal Marine Waters (October 2001, EPA 822-B-01-003). While EPA does not preclude the imposition of a more stringent averaging period if facts in the record warrant it, given the site-specific circumstances of this discharge, EPA has concluded that expression of a TN limit as an annual average load limit is consistent with the TMDL and will be protective of water quality. See General Response.

Comment 95

Since the issuance of the 2000 NPDES permit for Bondi Island and the 2009 of the CSO permit, several studies and reports including, but not limited to, the December 23, 2015 Long Island Sound Nitrogen Reduction Strategy issued by the administrators of EPA Region 1 and Region 2, and the New England Interstate Water Pollution Control Commission ("NEIWPCC") report entitled, "Watershed Synthesis Section: A Preliminary and Qualitative Evaluation of the Adequacy of Current Stormwater and Nonpoint Source Nitrogen Control in Achieving the 2000 Long Island Sound Total Maximum Daily Load for Dissolved Oxygen, August 2014, which clearly demonstrate that the

nitrogen discharges from the wastewater treatment plant, as well as nitrogen from the CSOs, are causing or contributing to water quality violations in Long Island sound and will continue to do so, even if and when all of the remaining actions to implement the 2000 TMDL are taken. Bacteria from CSOs are also causing and contributing to water quality violations in the Connecticut River, both in Massachusetts and in Connecticut. Were the results of these studies and reports considered in preparing these draft permits?

Response 95

EPA did consider these reports. EPA agrees that nitrogen discharges from SWSC contribute to water quality violations in Long Island Sound and have included an effluent limit for nitrogen in the final permit. In addition, EPA agrees that pathogenic bacteria from CSOs contribute to water quality violations in the Connecticut River. The permit does not allow CSO discharges that contribute to water quality violations. Through permit enforcement actions, EPA is ensuring that Springfield and other Massachusetts dischargers continue to reduce CSO discharges through sewer separation and diversion to treatment. From 2010 to 2017, CSO discharges from Western Massachusetts CSOs were reduced from 741 MG/yr to 339 MG/yr and the number of CSO regulators was reduced from 70 to 63.[51] SWSC reduced CSO discharges during that time from 490 to 169 MG/yr and is working to complete additional required (by administrative order) CSO abatement projects by 2023 that will result in further reductions.[52]

Also see response 63.

Comment 96

The draft permit does not contain an enforceable limit for nitrogen. Rather, it proposes continued optimization to meet a benchmark based on the current annual average Total Nitrogen load of 2,279 lbs/day. An enforceable limit must be included in the permit.

Response 96

EPA and DEP withdrew all three of the proposals for nitrogen controls included in the 2017 Draft Permit and replaced them with a new proposal in the revised 2018 Draft Permit for the reasons stated in the Fact Sheet Supplement issued with revised Draft Permit. EPA's approach to permitting out of basin POTWs discharging to Long Island Sound is further described in the General Response at the beginning of this Response to Comments.

Comment 97

Rather than require a nitrogen limit in the permit, EPA invites public comment on three options for addressing nitrogen discharges from the SWWTF. The three options are 1) the TN Optimization Requirement which requires optimization of operations at the facility to meet a benchmark based on

[51] EPA Region 1, *Western Massachusetts Combined Sewer Overflow (CSO) Status*, August 1, 2018, page 2.
[52] Ibid.

the current average TN load of 2,279 lbs/day; 2) the Nitrogen Optimization Benchmark Alternative1 which includes an annual average concentration based optimization benchmark of 8 mg/l combined with a higher annual mass based optimization benchmark of 2,534 lbs/day to provide Springfield with flexibility for growth; and 3) Nitrogen Optimization Benchmark Alternative 2 with an annual average concentration benchmark of 8 mg/l without a specific base load benchmark. The benchmarks in the draft permit and the other two alternatives are not acceptable. A benchmark is not an enforceable limit and, without a numerical limit, enforcement is impossible and there are no consequences for noncompliance. Although we agree that the further review of out-of-basin total nitrogen loads by EPA may require the incorporation of nitrogen limits in future permit modification, nothing prevents EPA from proposing a nitrogen limit now-even the 8 mg/l that EPA believes that Springfield can currently attain-for purposes of enforcement and the fair and equal treatment of the regulated communities that currently operate under such permit limits.

Response 97

See Response 96.

Comment 98

The existing permit for the SWWTF at Bondi Island was issued on December 8, 2000, and was administratively continued by EPA in 2005 without an opportunity for public comment. In light of the passage of more than seventeen years since the issuance of the existing permit, it is imperative that members of the public in Massachusetts and Connecticut impacted by the discharge from the SWWTF have an adequate and reasonable opportunity to voice their concerns about this proposed permit. Therefore, Connecticut Fund for the Environment and its bi-state programs Save the Sound and the Long Island Sound Soundkeeper requests that EPA hold a public hearing on this proposed permit.

Response 98

Due to significant public interest in the 2017 Draft Permit, a public hearing was held on April 24, 2018.

XXI. Testimony Provided by Jack Looney, Staff Attorney, Connecticut Fund for the Environment, April 24, 2018

Comment 99

Good evening. My name is Jack Looney. I'm a staff attorney at Connecticut Fund for the Environment.

Originally, I was going to just rely on my written comments dated February 7, 2018. But, as an attorney representing an environmental advocacy group, certain things I heard tonight raised legal questions in my mind.

Now, under the Clean Water Act, we bring citizen suit actions when government fails to act. And usually, they're for failure to comply with the permit parameter or a limit. But, we have a permit that has benchmarks. And what I heard tonight was that, a violation of the permit would be failure to perform optimization. Well, what's that? How do you enforce that? Again, there's no clear line on enforcement for say a citizen suit.

Also, what troubles me is, an EPA permit should not allow backsliding. Well, where does backsliding fit in when you have a permit that, for the last 20 years, has never had a limit for nitrogen? So, it raises a whole pandora's box of legal issues in my mind as to how the citizens who are impacted by the pollution coming down the Connecticut River into Long Island Sound, how do they take action when the government fails to, when you're dealing with terms that are as vague as the terms in this permit?

Response 99

Subsequent to this testimony, EPA revised the 2017 Draft Permit to include both a requirement to minimize total nitrogen discharges through optimization and a numeric effluent limit. See also the General Response.

XXII. Testimony Provided by Bill Lucey, Soundkeeper of the Save the Sound, April 24, 2018

Comment 100

My name is Bill Lucey, and I'm what's called the Long Island Sound Keeper. I work for Save the Sound. But, I'm also a member of the Water Keeper Alliance which is in 38 countries. I think, there's about 237 keepers now from Iraq to Russia, South America, India. They're all over the world. And our mission is to have swimmable, fishable water for everybody in all rivers and the ocean as well.

I'm a marine sound keeper. So, my job is mostly to patrol Long Island Sound and locate pollution sources. That's why we're concerned with upstream wastewater treatment plant discharges as far away as Canada where the Connecticut River headwaters, including the five states. So, every single one of these wastewater treatment plants is contributing to that load. That's why we're paying attention.

We're a long way from Long Island Sound here. So, I understand some people might wonder why we're here. But, that's the reason. One of our concerns is that this permit is old and hasn't been updated. We heard some discussion about that and updating the TMDL is obviously something that's desired by everyone here involved.

I'm grateful to be able to speak. I don't think anyone's been able to comment on this particular permit since 2000. I may be incorrect with that. But, it's very important for the public. There was a lot of great work outlined by the individuals working at the wastewater treatment plant. And for them to be able to also have a public forum to share that with us is important.

But, the main issue, and I will echo what you just heard is that, guidelines, they're good. But, it's kind of like saying the speed limit's an optional sign, or that stop sign is optional. We don't want to

make the rules too overbearing, too hard to regulate, too expensive. At the same time, there is great value in having a line that everyone agrees on that, if it's not obeyed, we have clean, clear, rapid recourse to fix the issue.

So, why do we care? What's wrong with nitrogen? You put it on your tomatoes and, you know, you get more tomatoes. The Long Island Sound nitrogen reduction strategy we already talked about that. It has created a lot of action. 15 years ago, New York and Connecticut agreed to a 58.5 percent reduction over the course of 15 years in their point source reduction from their sewage treatment plants. We met that last year in year 15.

So, it is possible to put the after burners on and do a better job.

Again, I would like to commend what I heard here tonight, was new to me, the reduced reduction 35 percent from the CSO's that these guys have achieved. I was not aware of that. That's very good news in my opinion and shows good faith effort.

The issue with nitrogen is that it doesn't really affect the river that much when it enters. It's kind of like taking vitamins. You can take a lot of vitamins. If you're eating a well-balanced meal, they're just kind of wasted. So, the total nitrogen goes down the system intact until it hits the marine waters.

And that's where it does the damage. That's where you can get an instant algae bloom. Nitrogen is limiting in Long Island Sound. We have huge algae blooms. You get the salt marshes that are over fertilized. That ends up causing cracks and slumping. We've lost somewhere about 40 percent of our salt water marshes in Long Island Sound, and as well as the loss that nitrogen causes to eel grass beds. We were down 60 to 70 percent in our eel grass bed coverage.

This all has effect on fisheries, crabs, water quality. So, these nitrogen streams are one of the greatest threats we have to Long Island Sound.

And then, where you know the Connecticut River comes in, it creates a big plume. It's a big river. And it goes down the coast. So, it's not just affecting right at the mouth of the Connecticut River. It's going several miles towards New Haven typically, if you look at the circulation models. And so, it's loading up all those areas with nitrogen as well.

And I'd like to give a shout out to Connecticut. We mentioned this. This is something that I think Boston needs to listen to. Springfield has financial troubles. They should be supported by Boston which has substantial financial resources. Western Massachusetts should be allowed to take advantage of a program like Connecticut DEEP has. We've gone from 15 CSO communities down to six.

Massachusetts has 24 CSO communities. And I think they've had those for a long time. I don't know if any have been eliminated. And Connecticut as you know is in fiscal straits compared to its neighbors. Still 2019, on the books for our clean water fund, there is almost a $200,000,000 program just for Hartford to do a CSO project. That's in one fiscal year's allocation.

Granted, we have this grant program. And we just are potentially passing you guys might be interested in this for your own efforts to go to the state legislature that, it's up to 80 percent potentially where you are going to get a grant. So, if you're a low income city, that may be something that allows us to go into places like Bridgeport in Connecticut and fix their CSO problems that are very old as well.

And I like some of the comments I read about doing the modeling, the CSO overflows. I think, you guys are on the right track. You can use your ADCP's or whatever flow modeling technique you're using, get an idea how those CSO's are acting, and then, do a notification program. For the record, Connecticut has a two hour notification requirement.

So, that's the background. And for the record, I'd like to state that we also support a 12 month rolling average of 1,648 pounds of total nitrogen per day loaded to be added to the same table on page 4 in the Draft Permit. And the only reason I agree with that is because it has been demonstrated to be possible in the past. I do not know the technical specifics of that. But, it has been recorded at that level.

So, if it can be done that way, if that's a really good job, we need to keep it there and hopefully, reduce that in the future. As the science gets better, I was really happy to hear that we have monitoring stations, that are actually going to at a real TMDL. It may go up. My guess is it's going to go down. But, we do need to have science informing these decisions.

You don't want to spend a bunch of money on a problem that doesn't exist. At the same time, we need to keep the vision that we're somewhere about 40 times over preindustrial levels of nitrogen in Long Island Sound. We've got a lot of work to do. And every single person that's in the watershed has to play their part.

Response 100

EPA shares the commenters concerns related to the impact that out-of-basin loads in the Connecticut River have on aquatic life uses in Long Island Sound. The optimization-only requirement in the 2017 Draft Permit was revised and reissued for public comments as the 2018 Draft Permit. The 2018 Draft Permit includes a requirement to optimize total nitrogen removal and a numeric effluent limit. See also General Response.

XXIII. Comments Submitted by Bill Lucey, Long Island Soundkeeper, by Letter Dated October 15, 2018

Comment 101

The revised draft permit, unlike the earlier version of this permit issued under Public Notice No. MA-007-18, contains a discharge limitation for Nitrogen, Total of 2,534 lbs/day. We believe this limit is higher than what is achievable. A lesser discharge limitation would be preferable and of greater benefit to our organization and the Soundkeeper in our joint effort to protect the environment and health of Long Island Sound. However, we acknowledge that the limitation in the revised draft permit is a positive first step in controlling the nitrogen load from the Springfield Regional Waste

Water Treatment Facility which negatively impacts the total nitrogen load in Long Island Sound. It is also the first time in almost two decades that EPA has set a nitrogen limit for this facility. We believe that this proposed limitation is an acknowledgement that nitrogen from point sources discharged into the Connecticut River from facilities in Western Massachusetts has an impact on the water quality of a downstream state and on the Long Island Sound.

Response 101

EPA acknowledges the commenter's support of the inclusion of a nitrogen limitation in the Final Permit. As discussed in the General Response, a watershed approach was used to develop the total nitrogen effluent limit for the Final Permit.

Comment 102

The revised draft permit as a Special Condition requires the Springfield Regional Waste Water Treatment Facility to optimize operations relative to total nitrogen removal through ammonia removal, maximization of solids retention, and other operational changes designed to enhance the removal of nitrogen. These special nitrogen conditions in the revised draft permit are also positive steps to reduce the nitrogen load from this facility.

The Connecticut Fund for the Environment and its bi-state programs Save the Sound and the Long Island Sound Soundkeeper support the adoption of this revised draft permit.

Response 102

EPA acknowledges the commenter's support of the Final Permit.

COMMENTS SUBMITTED BY THE MASSACHUSETTS WATER RESOURCES AUTHORITY ("MWRA")

XXIV. Comments Submitted by Michael Hornbrook, Chief Operating Officer, MWRA, by Letter Dated February 12, 2018

Comment 103

Comments on Co-Permittees

MWRA appreciates that the United States Environmental Protection Agency (EPA) has included language that provides some clarity about responsibilities among the co-permittees. However, MWRA continues to have reservations about the inclusion of municipal entities that have not applied for a permit and are not directly discharging to a water of the Commonwealth or the United States. MWRA remains concerned that the co-permittee model is inconsistent with the intent of the Clean Water Act.

Response 103

See Response 1.

Comment 104

Comments on Conventional Pollutant Weekly Load Limits

MWRA believes that in combined sewer systems, like those that exist in Springfield and portions of the MWRA system, where flows can increase dramatically during wet weather, weekly load limits for BOD and TSS should only be applied in wet weather. This is consistent with approaches taken by other states to account for fluctuations in flow due to wet weather, for example:

- Ohio allows mass limits to be calculated using wet weather flow rates if plants are subject to flows that exceed dry weather treatment facility design conditions (OAC 3745-33-05(C)(3)(c)) and

- Indiana allows for tiered effluent limits to allow plants to maximize wet weather flows to the treatment plant (327 IAC5-2-11.4(a)(9) and 327 IAC5-2-11.6(g)(4)).

An extended period of wet weather could result in a violation of a weekly load limit even if a treatment plant meets all daily and weekly concentration limits. An appropriate design flow for weekly conventional pollutant limits based on mass loading could be based on maximum average weekly flows rather than using the annual average flow.

Response 104

As the discharge originates in Massachusetts, EPA has written the permit to comply with Massachusetts Water Quality Standards and those of downstream affected States. Neither Ohio nor Indiana water quality standards are applicable to this proceeding. The BOD_5 and TSS limits that were included in the Draft Permit are based upon the secondary treatment requirements of 40 CFR § 133.102 and 40 CFR §122.45(f). Using a facility's design flow in the derivation of pollutant effluent limitations, including conditions to limit wastewater effluent flow, is consistent with, and anticipated by NPDES permit regulations. Regarding the calculation of effluent limitations for POTWs, 40 CFR § 122.45(b)(1) provides, "permit effluent limitations…shall be calculated based on design flow." POTW permit applications are required to include the design flow of the treatment facility. *Id.* § 122.21(j)(1)(vi). Accordingly, these limits remain unchanged in the Final Permit in order to comply with applicable secondary treatment standards.

Comment 105

Comments on Bypass Language

MWRA supports EPA's Inclusion of bypass language in Springfield's draft NPDES permit. Wastewater treatment plants are designed and constructed with the understanding that, at times, primary-treated-only wastewater will be blended with secondary treated flows and disinfected, provided that the final blended effluent meets secondary permit limits. This practice allows the POTW to maximize flow to the treatment plant from its combined collection system, which may be subject to large fluctuations in flow during wet weather, to minimize combined sewer overflows (CSOs), consistent with EPA policy and regulation.

However, it is unclear why the permit states that a bypass of secondary treatment is subject to the requirements of Part II.B.4.c (prior notice/24-hour reporting). The permit should clarify that Part II.B.4.c applies only when flow bypasses secondary treatment at flows less than the secondary process limit of 134 MGD. Thus, the permit should clarify that, for plant flows greater than 134 MGD that do not cause violations of numerical permit limits or endanger health or the environment, 24-hour reporting of blending is not required.

Response 105

EPA's position concerning footnote 3 and the conditions in the permit that relate to bypasses of secondary treatment are found in Response 2.

Comment 106

Comments on Routine Sampling Schedule (footnote 4)

The draft permit requires that the Permittee establish a routine sampling schedule, and note occasional deviations from the routine sampling program when submitting discharge monitoring reports. These requirements are reasonable and address concerns that sampling be representative of the discharge, as required by 40 CFR 136. The draft permit further requires that any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP. This latter condition is impractical and represents an unnecessary intrusion into the management of the sampling program. Provided the required sampling frequency is met, the permittee should have the flexibility to modify its routine sampling schedule as necessary, due to laboratory staffing and other internal management considerations. A more reasonable requirement would be that the permittee have a documented process for making changes to the sampling program.

Response 106

Although EPA considers the scenarios presented in the above comment regarding situations which may necessitate a change to the sampling program to be "occasional deviations", it is understood that the Permittee may need to make a more lasting change to the routine sampling program. Any modifications to the routine sampling program are to be documented and submitted to EPA and Mass DEP; however, such changes are not contingent upon review and approval by the Agencies. Therefore, the requirement in Footnote 4 to Part I.A.1. of the Draft Permit changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP has been removed from the Final Permit.

Comment 107

Comments on Combined Sewer Overflows

The permit should allow flexibility in choosing the most effective way to "characterize CSO impacts and efficacy of CSO controls" (Nine Minimum Controls [NMC] #9), as EPA did in the Public Notification Requirements for Combined Sewer Overflows to the Great Lakes Basin final rule promulgated in the Federal Register on January 8, 2018. MWRA's experience is that due to the

complexity of CSO regulator structures, and the difficulty in maintaining sensors in the harsh environment of a combined sewer, it is usually impossible to accurately measure CSO discharges (i.e., "Duration (hours) of discharge; Volume (gallons) of discharge" for "each combined sewer outfall (pg. 11)) directly. These measurements in the field - as opposed to those at CSO treatment facilities - require extensive, expensive metering at each outfall and regulator. Once the collected meter data are determined (through careful technical assessment) to be valid, the data must then undergo post-processing and expert interpretation, as well as validation against other information such as system performance records and model output, to determine reasonably accurate activation start and stop times and discharge volumes. MWRA has seen that, even with good meter "data", the discharge durations and volumes determined from the data are often suspect or unreliable.

As an alternative to direct measurement, MWRA encourages EPA to also allow modeling, precipitation-based estimates and other analytical tools to estimate CSO discharge duration and volume. Under the right conditions, modeling can be an effective method for determining the occurrence and characteristics of CSOs.

MWRA is providing immediate public notification of CSO discharges at CSO treatment facilities. These facilities are typically the most active CSOs in their respective receiving waters, and can be accurately measured and verified compared to stand alone CSO regulator structures

Initial notification

MWRA understands from the draft permit language that the procedure for public notification of a CSO discharge "within 24 hours of the initiation of any CSO discharge(s)" will be defined in a public notification plan to be submitted by the permittee to EPA and MassDEP. For most outfalls, it is unlikely infeasible to know, within that timeframe, whether there has been an activation. The notification plan should be allowed to include the use of predictions based on forecasts or direct measurement at a surrogate (e.g., most active) outfall location, or other reasonable, broadly applied approach, to notify the public of potential CSO discharges to the receiving water segment.

It is important to keep in mind that notifying the public of CSO discharges into a receiving water body that is affected by many wet weather (and possibly dry weather) sources of pathogens is likely to give the false impression that the water is safe for contact recreation when CSOs are not discharging; or, that the water is safe if there has not been a CSO activation in a storm or a series of wet weather events. The risk to public health is influenced by a number of factors, not just CSO discharges, and should be determined and communicated by the public health authorities, not the permittee.

Follow-up communication

The draft permit requires the permittee to report CSO discharge information for each outfall on its website within 24 hours and in an electronic Discharge Monitoring Report ("DMR") on a monthly basis. MWRA believes it is infeasible to provide accurate information on the timing and volume of each activation within 24 hours at any CSO outfall other than those from CSO treatment facilities, and it is unnecessarily cumbersome to determine and report this information on a monthly basis. Furthermore, MWRA believes that this level of detail is unnecessary to be reported in a short timeframe, or monthly. As discussed above, the permittee should be given adequate time to analyze,

process and validate data (or model results) to report accurate information on activation duration and discharge volume, and that for most outfalls, including outfalls where treatment limits are not imposed, this level of information is not helpful to the public or to CSO control efforts on a more frequent than annual basis.

Response 107

The Final Rule Public Notification for CSOs to the Great Lakes implements Section 425 of the Consolidated Appropriations Act of 2016, which requires EPA to work with the Great Lakes States to establish public notification requirements for combined sewer discharges to the Great Lakes. It does not apply to dischargers outside of the area.

EPA maintains its position that the objective of the monitoring required under the nine minimum controls is to provide data that can be used to evaluate compliance with the technology-based effluent limitations for CSOs that are set forth in the permit (i.e., the nine minimum controls), the efficacy of the CSO controls that have been implemented and to validate the assumptions set forth in the Permittee's LTCP. Therefore, the collection of data through direct measurement is essential for the regulatory agencies to conduct these evaluations. Forms of direct measurement may include, but are not limited to, metering of flows at each CSO outfall. Alternate approaches could include, for example, extrapolating the flow volume discharged through a CSO outfall from measurements of water levels in the interceptor sewers (or some other measured metric of a known quantity from which the flow volume could be derived). The requirement to monitor CSO discharges through direct measurement remains unchanged in the Final Permit.

EPA understands that additional time may be needed to validate and refine CSO data that is collected each month through direct measurement, and as such, the permit requires CSO discharge data to be submitted with the Annual Report that is submitted in accordance with Part I.B.4. of the permit.

EPA agrees that CSO discharge estimates may change between the time the initial and supplemental notifications are provided. This understanding is reflected in Part I.F.3.e.(2) (initial notification) of the Draft Permit, which states that "Initial notification of a probable CSO activation shall be provided…". This language has been maintained in the Final Permit.

EPA's detailed response to concerns regarding the requirement to report CSO data that is collected using meters is found in Response 9.

<u>Initial notification</u>

The public notification requirements in Final Permit (which were proposed in the Revised Draft Permit that was released for public comment on August 18, 2019) allow for the use of modeling estimates of discharge(s) based on rainfall (or other predictive modeling methodologies) rather than on actual CSO discharge measurements in determining whether a *probable* CSO discharge has occurred. See also Response 43.

EPA's response to the commenter's concern for the risk to public health due to factors other than CSO discharges are addressed in Response 42 and Response 111.

Follow-up Communication

EPA disagrees with the commenter's suggestion that confirmation of a CSO discharge can only be made if the discharge is from CSO treatment facilities. The concerns expressed by the commenter regarding the time needed to analyze, process and validate data (or model results) to report accurate information appear to be more appropriately directed towards the collection and reporting of flow volumes, as opposed to confirming whether a CSO discharge occurred.

The intent of the supplemental notification, in conjunction with the initial notification, is to provide the public with timely information relative to CSO discharges so that appropriate precautions can be taken to minimize exposure risks associated with recreating on or near receiving waters into which CSO discharges occur. These public notification requirements are reasonable given the uses of the receiving water and remain unchanged in the Final Permit.

Comment 108

Comments on Total Nitrogen Special Conditions.

Establishment of a Total Maximum Daily Load (TMDL) or a watershed study that establishes clear loading calculations attributable to point and nonpoint sources is a critical component of establishing appropriate effluent limitations. Although development of a TMDL is resource intensive, the process of having public engagement and scientific review is beneficial for the purposes of ensuring that proper goals are set. Proceeding absent such a process could result in requirements for expensive facility upgrades that have minimal environmental improvements. This is especially true for a large inter-state watershed like Long Island Sound.

Response 108

EPA acknowledges the comment and also refers the commenter to the General Response at the beginning of Response to Comments, which describes EPA's approach to permitting out of basin discharges to Long Island Sound, including the legal and technical framework applied to permit the determination. The Draft Permit has been subjected to extensive public process and scrutiny, including a public hearing and extended public comment period.

XXV. Comments Submitted by David Coppes, Chief Operating Officer, MWRA, by Letter Dated October 15, 2018

Comment 109

The revised draft sets a monthly load limit for total nitrogen, in place of a requirement to optimize nitrogen reduction in order to keep loads from increasing beyond present-day levels. In previous comments, MWRA noted that the requirement to limit nitrogen, in the absence of an updated Total

Maximum Daily Load (TMDL), was premature. This is even more critical when a numerical permit limit is imposed. In this instance, it does not appear as though the numerical limit has been established through a scientific and public process. The load limit in the draft permit does not have the weight of a TMDL behind it. In addition, this proposed limit appears to be based on the average flow rather than the design flow as would be required by 40 CFR § 122.45(b)(1).

Therefore, MWRA recommends that the numerical limit be removed from the permit because it is not supported by a TMDL.

Response 109

See the General Response at the beginning of the Response to Comments regarding inclusion of the TN limit. The commenter should note that the effluent limit for total nitrogen is now based on design flow.

Comment 110

Should the final permit retain a load limit for nitrogen, MWRA supports having the limit increase as CSO control projects are completed. This proposed approach recognizes that reducing CSO will reduce nitrogen loads, is consistent with CSO Nine Minimum Controls #5, Maximization of Flow to the POTW for Treatment, and provides an incentive to continue implementation of Springfield's Long Term CSO Control Plan.

However, actual CSO nitrogen load reductions may well be higher than the values assumed in Attachment E of the draft permit, particularly in wet years or if combined sewage nitrogen concentrations are higher than assumed. An allowable TN load increase based on actual CSO flows in a wet year, and TN concentrations based on recent measurements within Springfield's system, would more accurately reflect the true benefit of CSO volume reductions.

Response 110

The commenter appears to be suggesting that the permit limits automatically adjust by operation of the permit as CSO reductions are realized. This dynamic structure will be difficult to administer compared to the more straightforward and predictable approach of simply accounting for the facts and circumstances around TN loading at the time of permit reissuance. This information will be closely evaluated in future permitting actions as well as in determining the overall impacts of complemented CSO abatement projects on effluent quality discharged from the WWTF, and may lead to adjustments in the permit limits, consistent with applicable laws and regulations.

Part I.H.2. of the Final Permit requires the submittal of an annual report evaluating the impact of CSO abatement projects on nitrogen loads discharged from the WWTF. The report must include a comparison of 2012-2016 conditions with conditions for the reporting year with respect to the volume of sanitary sewage and of stormwater discharged through CSOs and through the WWTF. The report must also include the expected change in volume and nitrogen load from the WWTF from sanitary sewage and stormwater flows in connection

with CSO mitigation projects not included in the analysis of conditions as of the report date, but which are expected to be completed within the following five years.

Comment 111

CSOs

The revised draft permit increases, from 90 to 180 days, the time to develop a public notification plan (CSO Nine Minimum Controls #8). This change will allow for a more well-thought-out, workable plan. Because the infrastructure to provide notification needs to be put in place, MWRA recommends that additional time, at least an additional 24 months, be allowed for implementation to put in place the metering and/or modeling necessary to support rapid reporting.

Near-real-time notification

However, the revised draft also reduces the time for initial public notification of CSO discharges from 24 hours to 2 hours. This is a challenging requirement given the difficulty in being able to determine if a discharge has occurred. Furthermore, it is important to keep in mind that in wet weather, even when there are no CSO discharges, receiving water quality is likely impaired by stormwater and other non-CSO sources. A requirement for rapid public notification of CSO discharges may give the erroneous impression that the receiving waters are safe during and immediately after storms in the absence of CSO discharges. More helpful to the public and protective of public health would be a much more general short-term notification of the potential for one or more CSO discharges to a receiving water segment (along with stormwater and other discharges). The risk to public health is best determined and communicated by the public health authorities rather than wastewater permittees. MWRA recommends that the language be changed to provide a general notification that because large storms can trigger CSOs, public health officials recommend avoiding contact with water bodies during rainstorms and for 48 hours afterwards, as there may be increased health risks due to bacteria or other pollutants associated with urban stormwater runoff and CSO discharges.

Notwithstanding our concern about the difficulties and potentially misleading value of the 2-hour notification, we support EPA's inclusion of flexibility in the permit regarding the methods the permittee can use to best identify the occurrence of CSO discharges.

Follow-up notification

The revised draft requires a supplemental notification within 24 hours of the end of a CSO discharge. This supplemental notification would confirm whether the CSO did indeed discharge and provide a measure of the total volume discharged along with the start and stop times. As noted in earlier comments, estimating volume from meter data requires a time-consuming and thorough technical assessment of CSO meter data validity, then post-processing and expert interpretation of said data, to determine activation start and stop times and discharge volumes. Even then, data may be suspect due to the many challenges in monitoring within outfall or regulator structures. A recent

study[53] by the Water Environment Research Foundation found that CSO meter data, although useful for system understanding, is not "reliable enough for automated, real-time use." MWRA's expert consultant requires significantly more time to complete an evaluation of a CSO discharge event. It is not clear what additional value is provided in terms of public health by attempting to estimate CSO volumes within 24 hours. Discharge quantification is useful for assessing progress in CSO control and comparison to limits; it requires a careful, accurate calculation that could be reported a month later, or better yet, annually.

MWRA recommends that the follow-up notification requirement be eliminated.

Annual Notification

Given the above, the CSO activation and volume data are very likely to undergo some corrections between the follow-up notification – especially if it is required within 24 hours – and the annual report. It is not clear in the permit how the permittee is to handle any discrepancies. The permit should make clear that the initial and follow-up notifications are "preliminary – subject to revision" information.

Response 111

The deadline for submitting and implementing the public notification plan required by Part I.B.3.g. of the revised Draft Permit has been extended to 12 and 24 months, respectively, from the effective date of the Final Permit (see Response 42).

With respect to the comment regarding the initial notification requirement in the Revised Draft Permit, as indicated in the Fact Sheet Supplement, the intent of the initial notification is to inform the public of a *probable* CSO discharge occurrence no later than two hours after becoming aware of a *likely* discharge. The supplemental notification shall confirm the occurrence of an actual CSO discharge. (see Response 42).

Although EPA agrees that non-CSO sources may impact water quality in the receiving waters during periods of wet weather and that providing the public with information relevant to stormwater (and other non-CSO sources) impacts would be beneficial, requiring the Permittee to do so would be outside the scope of this permit, which pertains to CSOs and the implementation of the Nine Minimum Controls. EPA does, however, encourage Permittees to provide information relative to the impacts of wet weather, including those due to stormwater and other non-CSO sources, on the quality of the receiving water as well as to public health. The Permittee has communicated to EPA their intention to post a general notice on its website advising the public that large storms can trigger CSO events, and public health officials recommend avoiding contact with waterways during storm events and up to 48 hours afterward, and EPA fully supports these efforts (see Response 42).

[53] http://www.werf.org/c/KnowledgeAreas/ConveyanceSystems/ProductsandLinksnonWERF/NYCDEP_CSO_Metering_Pilot_Study.aspx

EPA acknowledges that additional time than what was proposed in the Revised Draft Permit may be necessary for the post-processing and validation of CSO data that is collection via direct measurement. As such, the requirement in Part I.B.5. to report CSO discharge data with monthly DMRs has been removed from the Final Permit. This information shall instead be included with the Annual Report that is required to be submitted in accordance with Part I.B.4. of the Final Permit.

EPA's response to the comment regarding follow-up notification is found in Response 42.

XXVI. Comments Submitted by Paul Hogan, Woodard and Curran, by Email Dated April 27, 2018

Comment 112

USEPA Region 1 should make the public comments submitted on the draft permit readily available to the public so that the full breadth of the comments can be viewed by those interested in this permit and the larger scope of water quality improvements. The USEPA NPDES web page seems like a logical location to have public access to all comments submitted during the public comment period.

Response 112

All of the comments received on the 2017 Draft Permit and the Revised Draft Permit, as well as the responses to those comments, are part of the administrative record, and as such, are available to the public. In addition, these comments are incorporated into the Response to Comments, which is posted on the EPA Region 1 NPDES website at https://www.epa.gov/npdes-permits/massachusetts-final-individual-npdes-permits upon final issuance of the permit.

Comment 113

The permit (pg. 7) requires a "report" for C-NOEC; however, the permit only has a limit (pg. 4) for acute LC50; the C-NOEC seems not necessary.

Response 113

The table in Footnote 10 of the Draft Permit incorrectly included a reporting requirement for C-NOEC. This requirement has been removed from the Final Permit.

Comment 114

CSO structures/regulators are required to be inspected, at a minimum, once per month- does electronic monitoring (e.g. using SCADA) qualify as an inspection or does one need to physically inspect the facility?

Response 114

Electronic monitoring may be used in conjunction with physical inspections of CSO structures/regulators to ensure that they are in working condition, as required in Part I.B.3.b. of the Draft Permit.

Comment 115

CSO signage and overflow reporting at the SW&SC public web site would seem a logical location for information related to CSOs, particularly in view of the public's tendency to use electronic devices access to information

Response 115

EPA agrees that the SWSC's website would be an appropriate location for the posting of information related to CSOs. EPA encourages the Permittee to consider the use of their website for such purposes as they develop their public notification plan.

Comment 116

Sewer collection system mapping is required (pg. 15); is that information required to be available digitally and will it be accessible to the public?

Response 116

While there is no requirement for making wastewater collection system maps available in a digital format, information that is submitted to EPA in accordance with the Final Permit is a public record and is available for inspection at EPA's Boston office or may be requested by the public.

Comment 117

The collection system O&M plan (pg. 16) is very prescriptive; the SW&SC should be given some flexibility in how it develops and implements its O&M plan as all sewer collection systems are not all exactly the same.

Response 117

EPA recognizes that differences exist between sewer collection systems, and the Draft Permit reflects this understanding. While the required components of the Collection System Operation and Maintenance Plan are set forth in Part I.D.5. of the Final Permit, the specific details of each of these components are to be expanded upon by the Permittee and each of the co-permittees, thus providing them with a reasonable degree of flexibility to tailor, develop and implement their respective O&M plans.

Comment 118

How does USEPA define "optimize" as it related to nitrogen removal ?. Does it mean using existing facility operations (e.g. changing aeration cycles) or does it mean construction of new capital outlays if the proposed annual average mass (2,279 lbs./day) is exceeded? If a benchmark is exceeded, is there a legal remedy to address it? Why is the nitrogen load applied annually and not seasonally as it is done in some other systems (e.g. some Narragansett Bay discharges)? If the SW&SC facility discharges less than the target amount, can it "trade" the difference with another WWTP in the watershed who is addressing nitrogen optimization? If so, what is the mechanism? I suggest that the annual optimization report be made readily available to the public. The nitrogen data in the fact sheet points to the fact that loadings to the Connecticut River in Massachusetts are lower than that required in the TMDL; thus, it does not seem prudent to put a permit limit in the final permit.

Response 118

"Optimize," as it relates to the removal of nitrogen in the context of Final Permit, applies to the operation of existing facilities in such a way so as to maximize nitrogen removal. Although not a permit requirement, capital investment aimed at facilitating nitrogen removal beyond what is achievable with existing facilities may be undertaken as deemed necessary and feasible by the Permittee.

The Draft Permit has been re-proposed to include an enforceable effluent limit for nitrogen.

Since the wasteload allocations are the 2000 LIS TMDL is expressed as an annual load, the limit in the Final Permit is expressed as an annual average load, which is mathematically equivalent to the annual load divided by 365. The rationale behind expressing the load as an annual load was explained in the TMDL as follows:

> While hypoxia generally occurs from June through September, nitrogen loadings throughout the year contribute to the pool of nitrogen available for uptake by phytoplankton. The model did not show a strong relationship between hypoxia and the seasonality of nitrogen loads to Long Island Sound that would warrant special attention to seasonal management of nitrogen. This is because algal growth occurs over seasonal and annual cycles where the total pool of nitrogen available is the critical factor. This supports the use of a maximum annual load used in this TMDL, rather than seasonal or daily load limits.[54]

In EPA's judgment, the continued use of an annual load, and collection of year-round data necessary to track it, provides the consistency necessary for regulators across the five states, two EPA regions and many stakeholders to use comparable units of loading when analyzing loading trends and managing the implementation of strategies to restore Long Island Sound.

EPA fully supports and encourages discussions between the regulatory agencies, the regulated community, and other affected parties regarding the development of a nitrogen trading program either through the implementation of this permit or future permits. Although

[54] LIS TMDL (page 19)

EPA is not in a position to administer such a program, it anticipates taking an active role in facilitating the development of a trading program were the various stakeholders interested in initiating one. See also response 50.

All reports submitted in accordance with the Final Permit are available for inspection by the public at EPA's Boston office or may be requested by the public.

Also see General Response.

SUMMARY OF OUT-OF-BASIN TOTAL NITROGEN ANNUAL AVERAGE EFFLUENT LOADS (lb/day)[1]

	Historical Estimates			Annual Average Load[2]						Average 2013-2017[2]	Average 2014-2018[2]
	1998 Baseline	TMDL Target	2004-2005	2013	2014	2015	2016	2017	2018		
Connecticut River	**21,672**	**16,254**	**13,836**	**12,215**	**12,120**	**11,657**	**10,211**	**11,165**	**10,906**	**11,404**	**11,212**
Massachusetts			9,939	9,308	9,184	8,945	7,695	8,390	8,331	8,704	8,509
New Hampshire			2,170	1,610	1,662	1,457	1,370	1,555	1,154	1,461	1,440
Vermont			1,727	1,297	1,273	1,255	1,146	1,221	1,421	1,238	1,263
Housatonic River (MA only)	**3,286**	**2,464**	**2,151**	**1,566**	**1,667**	**1,605**	**1,509**	**1,612**	**1,707**	**1,592**	**1,626**
Thames River (MA only)	**1,253**	**939**	**1,015**	**617**	**677**	**666**	**564**	**556**	**583**	**616**	**609**
Total Out-Of-Basin Load	**26,211**	**19,657**	**17,002**	**14,398**	**14,464**	**13,928**	**12,284**	**13,333**	**13,196**	**13,612**	**13,447**

NOTES:

1.Based on additional quality assurance review for individual facilities, some of the estimated total annual loadings for the years 2013-2017 have been revised since estimate provided in Fact Sheet Table 2. Includes industrial process water discharges. Does not include industrial or municipal stormwater discharges.

2. Based on end-of-pipe effluent data from 126 facilities (17 industrial facilites and 109 publicly or privately owned treatment works). See pages that follow for loads from individual facilities.

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 Average Load (lb/day)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/year)
Total Massachusetts Out-of-Basin Load			**262**	**143**	**146**	**11,491**	**11,528**	**11,215**	**9,767**	**10,557**	**10,631**	**10,912**	**10,740**
Total Massachusetts Connecticut River Load			**179.6**	**96**	**98**	**9,308**	**9,184**	**8,945**	**7,695**	**8,390**	**8,341**	**8,704**	**8,511**
MA0101613	SPRINGFIELD REGIONAL WTP	POTW	67.00	36.26	36.26	2,528	2,303	2,377	1,643	1,953	1,684	2,161	1,992
MA0101508	CHICOPEE WPC	POTW	15.50	7.59	7.83	2,187	2,220	2,092	1,854	1,872	1,895	2,045	1,987
MA0101630	HOLYOKE WPCF	POTW	17.50	8.02	8.05	774	584	644	687	747	593	687	651
MA0101214	GREENFIELD WPCF	POTW	3.20	3.16	3.23	471	436	467	460	386	482	444	446
MA0100994	GARDNER WWTF	POTW	5.00	2.79	2.89	310	413	470	377	455	404	405	424
MA0101818	NORTHAMPTON WWTP	POTW	8.60	3.80	3.85	368	489	412	355	393	453	403	420
MA0100218	AMHERST WWTP	POTW	7.10	3.60	3.76	425	456	411	335	342	377	394	384
MA0100455	SOUTH HADLEY WWTF	POTW	4.20	2.25	2.37	448	393	325	288	364	315	363	337
MA0101478	EASTHAMPTON WWTP	POTW	3.80	3.24	3.44	223	202	186	262	329	639	240	324
MA0101800	WESTFIELD WWTP	POTW	6.10	2.82	2.88	258	276	225	221	189	211	234	224
MA0110264	AUSTRALIS AQUACULTURE, LLC	IND	0.30	0.14	0.13	113	149	138	116	107	74	125	117
MA0101168	PALMER WPCF	POTW	5.60	1.39	1.47	217	142	92	84	100	125	127	109
MA0100137	MONTAGUE WWTF	POTW	1.80	0.83	0.84	78	107	78	55	215	78	107	107
MA0100099	HADLEY WWTP	POTW	0.54	0.38	0.38	78	73	76	65	109	67	80	78
MA0100889	WARE WWTP	POTW	1.00	0.54	0.55	76	62	89	87	72	78	77	77
MA0101257	ORANGE WWTP	POTW	1.10	0.90	0.98	69	72	62	58	91	91	70	75
MA0003697	BARNHARDT MANUFACTURING	IND	0.89	0.33	0.33	56	58	78	49	54	96	59	67
MA0103152	BARRE WWTF	POTW	0.30	0.18	0.19	76	77	81	50	50	49	67	61
MA0101567	WARREN WWTP	POTW	1.50	0.27	0.26	45	45	42	124	38	55	59	61
MA0000469	SEAMAN PAPER OF MASSACHUSETTS	IND	1.10	0.84	0.83	19	26	97	53	62	46	51	57
MA0100005	ATHOL WWTF	POTW	1.75	0.73	0.79	48	76	56	40	39	44	52	51
MA0101061	NORTH BROOKFIELD WWTP	POTW	0.62	0.32	0.32	*55*	62	51	40	47	50	51	50
MA0110043	MCLAUGHLIN STATE TROUT HATCHERY	IND	7.50	7.14	7.12	45	39	44	43	41	37	42	41
MA0100919	SPENCER WWTP	POTW	1.08	0.29	0.35	16	28	33	31	29	71	27	38
MA0100862	WINCHENDON WPCF	POTW	1.10	0.48	0.50	19	25	33	29	48	40	31	35
MA0101290	HATFIELD WWTF	POTW	0.50	0.16	0.17	44	51	37	28	28	27	38	34
MA0101052	ERVING WWTP #2	POTW	2.70	1.78	1.78	34	35	38	38	33	25	36	34
MA0100340	TEMPLETON WWTF	POTW	2.80	0.26	0.27	14	19	35	18	21	35	22	26

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 Average Load (lb/day)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/year)
MAG580004	SOUTH DEERFIELD WWTP	POTW	0.85	0.37	0.37	16	15	33	18	18	27	20	22
MA0040207	CHANG FARMS INC	IND	0.65	0.22	0.22	27	22	15	34	20	20	24	22
MA0110035	MCLAUGHLIN/SUNDERLAND STATE FISH HATCHERY	IND	2.10	2.14	2.16	21	25	22	19	20	25	21	22
MA0102148	BELCHERTOWN WRF	POTW	1.00	0.35	0.36	25	61	13	11	11	5.6	24	20
MAG580002	SHELBURNE WWTF	POTW	0.25	0.15	0.16	14	15	13	17	17	21	15	17
MAG580005	SUNDERLAND WWTF	POTW	0.50	0.16	0.17	22	20	12	13	10	9.3	16	13
MAG580001	OLD DEERFIELD WWTP	POTW	0.25	0.066	0.068	12	13	14	13	12	12	13	13
MA0110051	MCLAUGHLIN/BITZER STATE TROUT HATCHERY	IND	1.43	1.76	1.70	11	23	12	12	8.2	8.2	13	13
MA0032573	NORTHFIELD MT HERMON SCHOOL WWTP	POTW	0.45	0.066	0.072	13	22	7.6	15	10	10	14	13
MA0100102	HARDWICK WPCF	POTW	0.23	0.11	0.12	19	8.2	5.9	13	4.3	17	10	10
MA0100200	NORTHFIELD WWTF	POTW	0.28	0.072	0.080	8.1	3.8	6.8	6.5	10	14	7.0	8.1
MA0101516	ERVING WWTP #1	POTW	1.02	0.14	0.14	5.4	7.2	6.1	3.7	10	7.5	6.4	6.9
MA0102776	ERVING WWTP #3	POTW	0.010	0.0046	0.0049	6.8	6.1	2.9	6.9	8.0	7.5	6.1	6.3
MA0102431	HARDWICK WWTP	POTW	0.040	0.016	0.016	3.0	7.4	1.5	11	6.9	2.3	6.0	5.9
MAG580003	CHARLEMONT WWTF	POTW	0.050	0.016	0.016	4.8	7.5	4.2	4.8	4.8	4.8	5.2	5.2
MA0101265	HUNTINGTON WWTP	POTW	0.20	0.069	0.067	3.0	4.6	4.1	5.6	4.3	5.2	4.3	4.7
MA0100188	MONROE WWTF	POTW	0.020	0.012	0.013	*1.4*	*1.4*	1.4	1.2	2.3	1.7	1.5	1.6
MA0000272	PAN AM RAILWAYS YARD	IND	0.015	*0.010*	0.011	0.2	0.06	0.13	0.12	0.47	0.18	0.20	0.19
MA0001350	LS STARRETT PRECISION TOOLS	IND	0.025	0.014	0.014	0.03	0.03	0.0	0.08	0.07	0.04	0.04	0.05
MA0100161	ROYALSTON WWTP	POTW	0.039	0.0134	0.01298	0.520	*0.9*	0.49	0.43	0.49	0.60	0.57	0.59
Total Massachusetts Housatonic Load			**29.4**	**17**	**18**	**1,566**	**1,667**	**1,605**	**1,509**	**1,612**	**1,707**	**1,592**	**1,626**
MA0101681	PITTSFIELD WWTF	POTW	17.00	10.10	10.55	1,181	1,179	1,176	1,145	1,245	1,319	1,185	1,213
MA0000671	CRANE WWTP	POTW	3.10	3.05	3.07	138	155	142	108	116	107	132	126
MA0101524	GREAT BARRINGTON WWTF	POTW	3.20	0.90	0.97	96	110	120	100	99	124	105	111
MA0100935	LENOX CENTER WWTF	POTW	1.19	0.59	0.61	54	49	67	59	71	78	60	65
MA0001848	ONYX SPECIALTY PAPERS INC - WILLOW MILL	IND	1.10	0.96	0.94	31	51	39	44	33	22	40	38
MA0005011	PAPERLOGIC TURNERS FALLS MILL(6)	IND	0.70	0.73	0.73	24	85	17	12	6.5	Term	29	30
MA0100153	LEE WWTF	POTW	1.25	0.62	0.64	15	18	17	14	15	35	16	20
MA0101087	STOCKBRIDGE WWTP	POTW	0.30	0.14	0.15	17	10	15	16	13	10	14	13
MA0103110	WEST STOCKBRIDGE WWWTF	POTW	0.076	0.014	0.014	*4.7*	*5.3*	*3.8*	4.3	5.0	3.7	4.6	4.4
MA0001716	MEADWESTVACO CUSTOM PAPERS LAUREL MILL	IND	1.5	0.35	0.34	4.6	4.3	7.9	5.7	7.2	7.8	5.9	6.6

Summary of Massachusetts Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 Average Load (lb/day)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/year)
Total Massachusetts Thames River Load			**11.8**	**6**	**6**	**617**	**677**	**666**	**564**	**556**	**583**	**616**	**609**
MA0100439	WEBSTER WWTF	POTW	6.00	2.94	2.97	329	389	393	328	292	344	346	349
MA0100901	SOUTHBRIDGE WWTF	POTW	3.77	2.03	1.97	*182*	*178*	149	154	151	130	163	152
MA0101141	CHARLTON WWTF	POTW	0.45	0.21	0.21	44	40	75	41	68	70	53	59
MA0100421	STURBRIDGE WPCF	POTW	0.75	0.52	0.51	19	44	21	18	19	20	24	24
MA0101796	LEICESTER WATER SUPPLY WWTF	POTW	0.35	0.19	0.19	41	24	27	22	26	19	28	24
MA0100170	OXFORD ROCHDALE WWTP	POTW	0.50	0.23	0.24	1.4	2.4	1.0	0.23	0.57	0.49	1.1	0.9

NOTES:

1) italics = estimated load based on average conc & flow from other years, or if no data for any years, assumed concentration of 19.6 mg/L.

2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

Summary of New Hampshire Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 Average Load (lb/day)	2014 Average Load (lb/day)	2015 Average Load (lb/day)	2016 Average Load (lb/day)	2017 Average Load (lb/day)	2018 Average Load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/day)
Total New Hampshire Out-of-Basin Load			**31.5**	**18.5**	**18.6**	**1,610**	**1,662**	**1,457**	**1,370**	**1,555**	**1,154**	**1,451**	1,440
NH0000621	BERLIN STATE FISH HATCHERY	IND	6.1	6.41	6.30	*16*	8.8	13	13	15	8.7	12	12
NH0000744	NH DES (TWIN MTN STATE FISH HATCHERY)	IND	1.0	0.78	0.78	*5.0*	2.0	5.8	6.2	5.5	5.1	4.8	4.9
NH0100099	HANOVER WWTF	POTW	2.3	1.29	1.30	*341*	*341*	*341*	313	350	361	339	341
NH0100145	LANCASTER WWTF	POTW	1.2	0.79	0.79	75	84	78	45	72	63	69	68
NH0100153	LITTLETON WWTP	POTW	1.5	0.71	0.69	52	32	36	24	31	45	38	34
NH0100200	NEWPORT WWTF	POTW	1.3	0.59	0.59	87	97	63	80	80	79	81	80
NH0100366	LEBANON WWTF	POTW	3.2	1.48	1.49	*136*	*136*	*136*	132	127	152	139	137
NH0100382	HINSDALE WWTP	POTW	0.3	0.18	0.19	*18*	*18*	17	11	20	16	16	16
NH0100510	WHITEFIELD WWTF	POTW	0.2	0.07	0.08	12	35	22	15	18	24	22	23
NH0100544	SUNAPEE WWTF	POTW	0.6	0.40	0.40	*32*	*32*	*32*	*32*	50	33	32	35
NH0100765	CHARLESTOWN WWTP	POTW	1.1	0.27	0.28	18	22	13	12	19	22	17	17
NH0100790	KEENE WWTF	POTW	6.0	2.79	2.89	*506*	*533*	*397*	*394*	*452*	40	374	363
NH0101052	TROY WWTF	POTW	0.3	0.07	0.08	16	23	15	12	13	25	18	18
NH0101150	WEST SWANZEY WWTP	POTW	0.2	0.07	0.07	11	6.1	6.4	7.8	7.8	15	9.3	8.7
NH0101168	MERIDEN VILLAGE WATER DISTRICT	POTW	0.1	0.03	0.03	0.63	0.53	2.5	1.4	2.9	1.3	1.3	1.7
NH0101257	CLAREMONT WWTF	POTW	3.9	1.51	1.51	*161*	*161*	*161*	*161*	163	146	158	158
NH0101392	BETHLEHEM VILLAGE WWTP (1)	POTW	0.3	0.21	0.21	30	25	26	25	29	25	26	26
NHG580226	GROVETON WWTP	POTW	0.4	0.13	0.12	14	18	13	10	12	14	14	13
NHG580315	COLEBROOK WWTP	POTW	0.5	0.19	0.22	22	26	23	21	31	31	25	26
NHG580391	CHESHIRE COUNTY MAPLEWOOD NURSING HOME	POTW	0.040	0.017	0.02	1.7	2.1	1.6	1.3	1.5	1.3	1.6	1.5
NHG580404	WINCHESTER WWTP	POTW	0.28	0.14	0.14	5.3	6.1	11	3.9	13	8.3	6.9	8.3
NHG580421	LISBON WWTF	POTW	0.3	0.12	0.12	21	26	23	19	17	17	21	20
NHG580536	STRATFORD VILLAGE SYSTEM	POTW	0.1	0.01	0.01	2.3	2.2	1.9	3.9	2.5	2.8	2.6	2.7
NHG580978	WOODSVILLE WWTF	POTW	0.3	0.19	0.19	22	22	15	19	19	13	18	18
NHG581206	NORTHUMBERLAND VILLAGE WPCF	POTW	0.1	0.04	0.04	2.8	2.7	3.3	3.5	2.6	3.1	3.1	3.0
NHG581214	STRATFORD-MILL HOUSE	POTW	0.0	0.01	0.01	2.2	1.4	1.5	2.2	1.8	2.3	1.9	1.8
NHG581249	LANCASTER GRANGE WWTP	POTW	0.0	0.00	0.00	0.54	0.45	0.53	0.45	0.49	0.44	0.48	0.47

NOTES:

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2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

Summary of Vermont Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 load (lb/day)	2014 load (lb/day)	2015 load (lb/day)	2016 load (lb/day)	2017 load (lb/day)	2018 load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/day)
	Total Vermont Out-of-Basin Load		**18.3**	**7.7**	**7.8**	**1,297**	**1,273**	**1,255**	**1,146**	**1,221**	**1,421**	**1,238**	**1263**
VT0000019	WEIDMANN ELECTRICAL TECHNOLOGY INC	IND	0.25	0.15	0.15	2.3	2.4	1.4	1.4	1.2	1.7	1.7	1.6
VT0000108	PUTNEY PAPER COMPANY MILL & LAGOONS	IND	0.28	0.17	0.16	25	22	26	20	22	17	23	22
VT0000248	FIBERMARK	IND	2.00	1.06	1.06	128	117	82	89	106	92	104	97
VT0100013	BELLOWS FALLS WWTF	POTW	1.40	0.44	0.44	136	136	136	136	102	179	129	138
VT0100048	BETHEL	POTW	0.13	0.07	0.06	5.5	10.4	4.0	2.4	6.5	3.5	5.8	5.4
VT0100064	BRATTLEBORO WWTF	POTW	3.01	1.25	1.27	487	487	487	446	501	421	482	469
VT0100081	CHESTER MTP	POTW	0.19	0.14	0.16	16	16	5.0	4.5	5.6	7.6	9.2	7.6
VT0100145	LUDLOW WWTF	POTW	0.71	0.37	0.37	35	35	27	35	41	42	35	36
VT0100277	PUTNEY	POTW	0.09	0.06	0.05	16	16	16	11	16	21	15	16
VT0100285	RANDOLPH	POTW	0.41	0.17	0.17	23	23	23	21	20	28	22	23
VT0100374	SPRINGFIELD WWTF	POTW	2.20	0.96	0.98	132.8	133	133	133	120	130	130	130
VT0100447	WINDSOR-WESTON HEIGHTS	POTW	0.02	0.01	0.01	0.53	0.40	0.53	1.2	0.88	1.0	0.7	0.8
VT0100579	ST JOHNSBURY	POTW	1.60	0.84	0.83	31	34	23	13	24	146	25	48
VT0100595	LYNDON WWTP	POTW	0.76	0.15	0.15	21	21	21	16	24	21	20	20
VT0100625	CANAAN MTP	POTW	0.19	0.10	0.10	25	17	15	16	19	17	18	17
VT0100633	DANVILLE WPCF	POTW	0.07	0.03	0.03	2.6	2.9	3.5	7.6	4.4	4.3	4.2	4.5
VT0100706	WILMINGTON WWTP	POTW	0.15	0.07	0.08	1.5	3.8	15.9	10.0	4.7	17.2	7.2	10
VT0100731	READSBORO WPC	POTW	0.76	0.04	0.04	3.6	3.6	3.2	2.8	3.8	4.0	3.4	3.5
VT0100749	S. WOODSTOCK WWTF	POTW	0.06	0.01	0.01	1.9	1.9	1.9	0.7	1.2	3.9	1.5	1.9
VT0100757	WOODSTOCK WWTP	POTW	0.46	0.22	0.22	25	25	23	24	26	22	25	24
VT0100765	WOODSTOCK - TAFTSVILLE	POTW	0.02	0.0027	0.00	0.47	0.32	0.24	0.20	0.55	0.87	0.36	0.44
VT0100803	BRADFORD WPCP	POTW	0.15	0.086	0.08	9.1	9.1	9.1	7.7	9.4	8.5	8.9	8.8
VT0100846	BRIDGEWATER WWTF	POTW	0.05	0.0080	0.01	1.3	1.1	0.91	1.0	1.1	1.1	1.1	1.1
VT0100854	ROYALTON WWTF	POTW	0.08	0.024	0.02	5.3	5.2	4.6	4.7	7.7	5.0	5.5	5.4
VT0100862	CAVENDISH WWTF	POTW	0.16	0.063	0.06	12	15	10	9	11	15	12	12
VT0100919	WINDSOR WWTF	POTW	1.13	0.25	0.25	69	69	69	66	65	71	68	68
VT0100943	CHELSEA WWTF	POTW	0.07	0.02	0.02	8.2	8.2	8.2	4.8	8.9	9.9	7.7	8.0
VT0100951	RYEGATE FIRE DEPARTMENT .#2	POTW	0.01	0.0046	0.00	1.9	0.55	1.1	1.9	2.1	0.76	1.5	1.3
VT0100978	HARTFORD - QUECHEE	POTW	0.31	0.22	0.22	24	24	53	12	12	10	25	22

Summary of Vermont Out-Of-Basin Wastewater Treatment Plant and Industrial Discharger Total Nitrogen Effluent Data

Permit #	Name	Type	Design Flow (MGD)	2013-2017 Avg Flow (MGD)	2014-2018 Avg Flow (MGD)	2013 load (lb/day)	2014 load (lb/day)	2015 load (lb/day)	2016 load (lb/day)	2017 load (lb/day)	2018 load (lb/day)	2013-2017 Avg Load (lb/day)	2014-2018 Avg Load (lb/day)
VT0101010	HARTFORD WWTF	POTW	1.23	0.59	0.61	29	11	31	30	34	89	27	39
VT0101044	WHITINGHAM(JACKSONVILLE)	POTW	0.06	0.018	0.02	3.2	3.2	3.5	3.4	2.8	3.1	3.2	3.2
VT0101061	LUNENBURG FIRE DISTRICT #2	POTW	0.09	0.06	0.06	4.9	7.6	6.9	5.6	3.2	7.8	5.6	6.2
VT0101109	WHITINGHAM	POTW	0.02	0.01	0.01	1.6	1.2	1.4	1.5	1.2	3.0	1.4	1.7
VT0101141	SHERBURNE WPCF	POTW	0.31	0.08	0.08	8.9	8.9	8.3	7.7	10	16	8.8	10

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2) The loads represent annual totals, based on annual daily average flow and daily average nitrogen concentration.

3) Term = Permit was terminated in that year

4) This summary only includes POTWs and Industrial sources for which there was nitrogen monitoring at the outfalls for treated effluent and/or process wastewater.

APPENDIX B – COMBINED SEWER OVERFLOWS BACKGROUND

Springfield Regional Wastewater Treatment Facility (NPDES Permit No. MA0101613)

This Attachment provides background on the statutory and regulatory framework that applies to combined sewer overflows (CSOs). It briefly describes the Region's approach to key permitting and enforcement issues. Finally, it provides data documenting the trends in CSO discharges at the Greater Lawrence Sanitary District.

A combined sewer system ("CSS") is a wastewater collection system owned by a state or municipality (as defined by section 502(4) of the Clean Water Act ("CWA")) which conveys sanitary wastewaters (domestic, commercial and industrial wastewaters) and storm water through a single-pipe system to a Publicly Owned Treatment Works ("POTW") Treatment Plant (as defined in 40 CFR § 403.3(p)). A CSO is the discharge from a CSS at a point prior to the POTW Treatment Plant. CSO discharges occur when the volume of wastewater exceeds the capacity of the CSS or treatment plant (e.g., during heavy rainfall events or snowmelt). When this occurs, untreated stormwater and wastewater, discharges directly to nearby streams, rivers, and other water bodies.

Like all point sources, CSOs are subject to sections 301 and 402 of the CWA. CSOs require National Pollutant Discharge Elimination System (NPDES) permits, which may include technology-based and water quality-based requirements of the CWA. Additionally, where EPA is the permitting authority it must ensure that the state or authorized tribe where the CSO discharge may originate either issues a section 401 water quality certification finding compliance with existing water quality requirements or waives the certification requirement.

Further, Section 402(q) of the CWA states that: "[e]ach permit, order, or decree issued pursuant to this chapter after December 21, 2000 for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994." The Combined Sewer Overflow Control Policy ("CSO Policy"), 59 Fed. Reg. 18688 (April 19, 1994), provides a national strategy for the control of CSOs through the NPDES program at 40 CFR Part 122. The CSO Policy "presents a uniform, nationally consistent permitting approach that should … result in the establishment of both technology-based and water quality-based requirements for all CSOs."[1]

Under the CSO Policy, permittees must undertake a process to accurately characterize their CSS and CSO discharges, demonstrate implementation of the nine-minimum technology-based controls (NMCs), and develop long-term CSO controls plans ("LTCPs") which evaluate alternatives for attaining compliance with the CWA, including compliance with water quality standards and protection of designated uses. All CSO permittees are required to implement the Best Available Technology Economically Achievable / Best Conventional Pollutant Control Technology ("BAT/BCT"), which at a minimum includes the NMCs, as determined on a best professional judgment basis (BPJ) by the permitting authority. Implementation of the NMCs is achieved through specific control measures deemed most appropriate for a specific permit and necessary to satisfy the

[1] "Combined Sewer Overflows Guidance for Permit Writers," at 2-1 (September 1995), available at https://www.epa.gov/sites/production/files/2015-10/documents/csopermitwriters_full.pdf ("CSO Guidance for Permit Writers")

BAT/BCT requirement based on BPJ of the permit writer, considering the factors presented in 40 CFR § 125.3(d).[2]

The CSO Policy sets out a phased approach to CSO permitting. The immediate requirement for CSO permits are: (1) immediately implement the BAT/BCT, which includes at a minimum the NMCs; (2) submit a report documenting such implementation; (3) comply with applicable WQS, no later than the date allows under the State's WQS, "expressed in the form of a narrative limitation;" and (4) develop and submit a LTCP.[3] Once a permittee has developed a LTCP and selected controls necessary to achieve WQS, the CSO Policy articulates the following, among other elements, for inclusion in CSO permits: (1) requirements to implement the NMCs and (2) water quality-based effluent limits under 40 CFR § 122.44(d)(1) and 122.44(k), requiring, at a minimum, numeric performance standards for the selected CSO controls.[4]

For CSO permits on the Merrimack River, EPA has and continues to require implementation of the NMCs. Development of LTCPs, on the other hand, has been and continues to be addressed as part of enforcement actions taken by Region 1's Enforcement and Compliance Assurance Division.

EPA or the relevant state has worked with virtually every CSO community in New England to develop CSO abatement schedules to be memorialized in administrative or judicial enforcement mechanisms. As necessary, such schedules are adjusted to reflect new information and evolving financial conditions.

[2] *Id*. at 3-6.
[3] 59 Fed. Reg. at 18696.
[4] *Id.*

Draft

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, [33 U.S.C. §§1251 et seq. (the "CWA")], and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Springfield Water and Sewer Commission

is authorized to discharge from a facility located at:

Springfield Regional Waste Water Treatment Facility
Route 5 Bondi Island
Agawam, MA 01001

And

Combined Sewer Overflow (CSO) discharges at 24 locations

to receiving waters named: **Connecticut River Segment MA 34-05 (Waste Water Treatment Facility Outfall # 001 and CSO outfalls # 007, 008, 010, 011, 012, 013, 014, 015A, 015B,016, 018, 042 and 049), Chicopee River Segment MA36-25 (CSO outfalls # 034, 035, 036A, and 037) and Mill River Segment MA34-29 (CSO outfalls # 017, 019, 024, 025, 045, 046, and 048)**

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

The Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham are co-permittees for Part C, Unauthorized Discharges; 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., Alternate Power Source.

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D. and Part E of this permit. The permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E. The responsible Town departments are:

Town of Agawam **Department of Public Works** **1000 Suffield St** **Agawam, MA 01001**	**Town of East Longmeadow** **Department of Public Works** **60 Center Square, 2nd Floor** **East Longmeadow, MA 01028**	**Town of Longmeadow** **Department of Public Works** **31 Pondside Road** **Longmeadow, MA 01106**
Town of Ludlow **Department of Public Works** **198 Sportsmans Road** **Ludlow, MA 01056**	**Town of West Springfield** **Department of Public Works** **26 Central Street, Suite 17** **West Springfield, MA 01089**	**Town of Wilbraham** **Department of Public Works** **240 Springfield St.** **Wilbraham, MA 01095**

Draft

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 will expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit signed on December 8, 2000.

This permit consists of 25 pages in Part I including effluent limitations and monitoring requirements, **Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011)**, **Attachment B (Freshwater Chronic Toxicity Test Procedure and Protocol, April 2013), Attachment C (Reassessment of Technically Based Industrial Discharge Limits), Attachment D (NPDES Permit Requirement for Industrial Pretreatment Annual Report), Attachment E (Allowable Total Nitrogen Load Increases)**, and **Part II** (21 pages including NPDES Part II Standard Conditions).
Signed this day of

_____	_____
Ken Moraff, Director	Lealdon Langley, Director
Office of Ecosystem Protection	Massachusetts Wetlands and Wastewater Programs
Environmental Protection Agency	Department of Environmental Protection
Boston, MA	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.

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PART I

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001** to the Connecticut River. Such discharges shall be limited and monitored by the permittee as specified below. A bypass of secondary treatment is allowed when wet weather influent flow exceeds the wet weather capacity of the secondary treatment.

Effluent Characteristic		**Discharge Limitation**			**Monitoring Requirement** [*4]	
Parameter	**Units**	**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Effluent Flow [*2, *3]	MGD	67	—	Report	Continuous	Recorder
BOD_5 [*5]	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
TSS [*5]	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
pH Range[*1]	Standard Units	6.5 – 8.3 (See Permit Part I.A.1.b.)			1/Day	Grab
Escherichia coli [*1, *7] (April 1 - October 31)	cfu/100 ml	126	—	409	5/Week	Grab
Total Residual Chlorine [*1, *8]	mg/l	0.26	—	0.46	5/Week	Grab

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Part I.A.1. (Continued)

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement[4]	
Parameter		**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Ammonia Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report Report	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrogen, Total [*9]	mg/l lbs/day	Report **2,534**	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrite+Nitrate, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Kjeldahl Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Whole Effluent Toxicity [*10, *11, *12, *13]	%	Acute LC_{50} $\geq$ 100%			4/Year	24-Hour Composite[*6]
Hardness[*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Ammonia Nitrogen as N [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Aluminum [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Cadmium [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Copper [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Nickel [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Lead [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Zinc [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]

Footnotes:

*1. Required for State Certification.

*2. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.

*3. The following information shall be reported and submitted as an attachment to the monthly DMRs for each day there was a bypass of secondary treatment: date and time of initiation, total influent flow at time of initiation, date and time of termination, total influent flow at time of termination, total duration of flow, and total volume of flow. A bypass of secondary treatment also is subject to the requirements of Part II.B.4.c. and Part II.D.1.e. of this permit.

Flows shall be measured using a meter.

The permittee shall not accept septage during any calendar day in which a bypass of secondary treatment is anticipated.

Monitoring Location	Date and Time of Initiation of Flow	Influent Flow at Time of Initiation (MGD)	Date and Time of Termination of Flow	Influent Flow at Time of Termination (MGD)	Total Duration of Flow (Hours)	Total Volume of Flow (MGD)
Secondary Bypass[a]						

[a.] Flows shall be measured using a meter.

*4. All required effluent samples shall be collected at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment. Bacteria and TRC samples shall be collected after exiting the chlorine contact chamber.

A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report. Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP.

All samples shall be tested using the analytical methods found in 40 CFR § 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR § 136.

*5. Sampling is required for influent and effluent.

*6. A 24-hour composite sample will consist of at least twenty-four (24) grab samples taken during one consecutive 24 hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.

*7. The monthly average limit for *Escherichia coli (E. coli)* is expressed as a geometric mean. *E. coli* monitoring shall be conducted concurrently with a total residual chlorine sample.

*8. Total residual chlorine monitoring is required whenever chlorine is added to the treatment process (i.e. TRC sampling is not required if chlorine is not added for disinfection or other purpose). The limitations are in effect year-round. For months when chlorine is not added to the treatment system a no data indicator (NODI) of C shall be reported on the monthly discharge monitoring report.

The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, the compliance level will be the ML. Sampling results less than the detection limit shall be reported as "≤ [detection limit]" on the Discharge Monitoring Report.

Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine 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, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

*9. **Report monthly average and maximum daily total nitrogen concentration in mg/L and the annual average and monthly average total nitrogen mass loading in lbs/day. The limit is an annual average mass loading limit (lbs/day), which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average total nitrogen for the reporting month and the monthly average total nitrogen of the previous eleven months.**

Upon the completion and documentation of each currently planned combined sewer overflow project, the permittee may request an incremental increase in the total nitrogen mass loading limit. The maximum allowable net increase for each project is listed in Attachment E. The request must be made in writing to EPA and MassDEP and shall include certification by a licensed civil engineer that the project has been completed as described in the Springfield Water and Sewer Commission's ("SWSC") 2014 Integrated Wastewater Plan (which incorporates the Long Term Control Plan) and is fully operational. Any variations in the project from that described in the SWSC's 2014 Integrated Wastewater Plan shall be identified and described in sufficient detail for EPA to determine the effect on the total nitrogen mass loading limit.

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See Part 1.H. SPECIAL CONDITIONS for requirements regarding optimization for nitrogen removal.

*10. The permittee shall conduct acute toxicity tests four times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. Toxicity test samples shall be collected during the same week each time 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 April 30th, July 31st, October 31st, and January 31st, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachments A and B** of this permit.

Test Dates during the month of:	**Submit Results By:**	**Test Species**	**Acute Limit** LC_{50}	**Chronic Limit C-NOEC**
March June September December	April 30 July 31 October 31 January 31	*Ceriodaphnia dubia* (Daphnid)	≥ 100%	Report

*11. The LC_{50} 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.

*12. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachments A and B, Section IV., DILUTION WATER,** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachments A and B**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") 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 the NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at https://netdmr.zendesk.com/hc/en-us/articles/209616266-EPA-Region-1-NetDMR-Information. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachments A and B**. Any modification or revocation to this guidance shall be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachments A and B**. If the permittee uses an alternative dilution water, the ambient water will still need to be tested.

*13. For each whole effluent toxicity test the permittee shall report on the appropriate discharge monitoring report, (DMR), the concentrations of the hardness, 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 **Attachments A and B**. Also, the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

Part I.A.1. (Continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 Standard Units (S.U.) at any time.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.

e. The permittee's treatment facility will maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD_5 and TSS values collected during dry weather days.

f. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

g. The results of sampling for any parameter analyzed in accordance with EPA approved methods above its required frequency must also be reported.

h. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow [80% x 67 MGD= 54 MGD], the permittee shall submit a report to MassDEP by **April 30** of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the effluent flow limit and all other effluent limitations and conditions.

2. All POTWs must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into 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 will include information on:

(1) the quantity and quality of effluent introduced into the POTW; and

(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

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

4. Toxics Control

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

b. Any toxic components of the effluent will 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.

5. Numerical Effluent Limitations for Toxicants

a. 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. COMBINED SEWER OVERFLOWS (CSOs)

1. Effluent Limitations

During wet weather, the permittee is authorized to discharge storm water/wastewater from the CSO outfalls listed below:

Outfall No.	Location	Latitude	Longitude
To Connecticut River			
007	Rowland St.	42º 12'N	72º 62'W
008	Washburn St. 4	42º 11'N	72º 62'W
010	Clinton St.	42º 10'N	72º 60'W
011	Liberty St.	42º 10'N	72º 59'W
012	Worthington St.	42º 10'N	72º 59'W
013	Bridge St.	42º 10'N	72º 59'W
014	Elm St.	42º 10'N	72º 59'W
015A	Union St.	42º 10'N	72º 59'W
015B	Union St.	42º 10'N	72º 59'W
016	York St.	42º 09'N	72º 59'W

018	Longhill St.	42º 06'N	72º 58'W
049	Springfield St.	42º 10'N	72º 62'W
042	Bondi Island		
To Chicopee River			
034	Main St.	42º 16'N	72º 51'W
035	Front & Oak Sts.	42º 16'N	72º 50'W
036A	Pinevale & Water Sts.	42º 16'N	72º 50'W
037	Cedar St. 4	42º 16'N	72º 50'W
To Mill River			
017	Fort Pleasant (Blake Hill)	42º 09'N	72º 58'W
019	Mill, Orange, & Locust Sts.	42º 09'N	72º 57'W
024	Rifle & Central Sts.	42º 10'N	72º 56'W
025	Allen & Oakland Sts.	42º 10'N	72º 56'W
045	Fort Pleasant Ave.	42º 06'N	72º 58'W
046	Belmont St.	42º 06'N	72º 58'W
048	Allen & Rifle Sts.	42º 10'N	72º 56'W

2. The effluent discharged from these CSOs is subject to the following limitations:

   a. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgment (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control includes the implementation of Nine Minimum Controls (NMC) specified below. These Nine Minimum Controls and the Nine Minimum Controls Minimum Implementation Levels which are detailed further in Part I.B.3. are requirements of this permit.

      (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;

      (2) Maximum use of the collection system for storage;

      (3) Review and modification of the pretreatment program to assure CSO impacts are minimized;

      (4) Maximization of flow to the POTW for treatment;

      (5) Prohibition of dry weather overflows from CSOs;

      (6) Control of solid and floatable materials in CSOs;

(7) Pollution prevention programs that focus on contaminant reduction activities;

(8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts;

(9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

b. The discharges shall not cause or contribute to violations of federal or state Water Quality Standards.

3. Nine Minimum Controls Minimum Implementation Levels

a. The permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the following controls plus other controls the permittee can reasonably undertake as set forth in the documentation.

b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

Annually, no later than April 30th, the permittee shall submit a certification to MassDEP and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

MassDEP and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

c. Discharges to the combined system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active (NMC # 3, 6, and 7).

c. Dry weather overflows (DWOs) are prohibited (NMC # 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP orally within 24 hours of the time the permittee becomes aware of the circumstances and a written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. See also Paragraph D.1.e of Part II of this permit.

d. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9).

Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.B.4.:

- Duration (hours) of discharge;
- Volume (gallons) of discharge;
- National Weather Service precipitation data from the nearest gage where precipitation is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC # 8). The signs must be located at or near the combined sewer outfall structures and easily readable by the public from the land and water. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

SPRINGFIELD WATER AND SEWER COMMISSION
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent feasible, shall place additional signs in Spanish or add a universal wet weather sewage discharge symbol to existing signs.

g. Public Notification Plan

1. **Within 180 days of the effective date of the permit, the permittee shall submit to EPA and MassDEP a Public Notification Plan describing the measures that will be taken to meet NMC#8 in Part I.B.2. of this permit (NMC #8). The public notification plan shall include the means for disseminating information to the public, including communicating the initial and supplemental notifications required in Part I.B.3.g.2. and 3 of this permit, as well as procedures for communicating with public health departments and any other potentially affected entities, including downstream communities, whose waters may be affected by discharges from the Permittee's CSOs.**

2. **Initial notification of a probable CSO activation shall be provided to the public and any other potentially affected party as soon as practicable, but no later than, two (2) hours after becoming aware by monitoring, modeling or other means that a CSO**

discharge has occurred. Notification may be made through electronic means, including posting to the Permittee's website. The initial notification shall include the following information:

Date and time of probable CSO discharge
CSO number and location

3. **Supplemental notification shall be provided to the public and any other potentially affected party as soon as practicable, but no later than, twenty-four (24) hours after becoming aware of the termination of any CSO discharge(s). Notification may be made through electronic means, including posting to the Permittee's website. The supplemental notification shall include the following information:**

   CSO number and location
   Confirmation of CSO discharge
   Total volume discharged from the CSO
   Date, start time and stop time of the CSO discharge

4. **Annual notification - Annually, by April 30th, the permittee shall post information on the locations of CSOs, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and water quality on a website. This information shall be disseminated through the means identified in the Public Notification Plan that is submitted in accordance with Part I.B.3.g.1. of this permit.**

The Public Notification Plan shall be implemented no later than 180 days following the effective date of the permit. The initial, supplemental, and annual public notification requirements shall become effective 180 days following the effective date of the permit.

4. Nine Minimum Controls Reporting Requirement

Annually, no later than April 30th, the permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls including the required information on the number of activations for each CSO as well as the volume of each discharge from each CSO.

5. Combined Sewer Outfalls

For each combined sewer outfall (CSO **outfalls #007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042, 049, 034, 035, 036A, 037 017, 019, 024, 025, 045, 046, and 048)**, the permittee must monitor and report the following information in each monthly DMR.

Parameters	**Reporting Requirements**	**Monitoring Requirements**	
	Total Monthly	**Measurement Frequency**	**Sample Type**
Total Flow	Report Gallons	Daily, when discharging	Continuous
Total Flow Duration (Duration of flow through CSO)	Report Hours	Daily, when discharging	Continuous
Number of CSO Discharge Events	Report Monthly Count	Daily, when discharging	Count

a. For Total Flow, measure the total flow discharged from each CSO outfall during the month. For Total Flow Duration provide the total duration (hours) of discharges for each CSO outfall during the month.

b. For those months when a CSO discharge does not occur, the permittee must still complete the monthly DMR with the appropriate no discharge (NODI) code for each outfall.

C. 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 outfalls listed in Part I.A.1.and Part I.B.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 Part II.D.1.e. (1) of the General Requirements of this permit (Twenty-four-hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP Regional Office telephone numbers). The reporting form and instructions for its completion may be found online at http://www.mass.gov/eea/agencies/massdep/service/approvals/sanitary-sewer-overflow-bypass-backup-notification.html.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D and Part E of this permit. Each of the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall only be responsible under Part II, Part C, Part D and Part E of this permit for only its own

infrastructure, activities and required reporting with respect to the portions of the collection system that each owns or operates.

Operation and maintenance of that portion of the collection system and the entirety of the treatment system owned and operated by the Springfield Water and Sewer Commission shall be in compliance with the terms and conditions of Part C, Part D and Part E of this permit and the General Requirements of Part II. The Springfield Water and Sewer Commission shall only be responsible under Part C, Part D and Part E of this permit and the General Requirements of Part II for its own infrastructure, activities and required reporting with respect to the portion of the collection and treatment system that it owns or operates. No Permittee shall be responsible for violations of Part C, Part D and Part E of this permit and/or the General Requirements of Part II committed by another Permittee relative to the portions of the collection system owned and operated by such other Permittee. In the event of any conflict between the above provisions and any other term or provision of this Permit, the above provisions shall control. The permittee and each co-permittee are required to complete the following activities for the respective portions of the collection system which they operate:

1. Maintenance Staff

   The permittee and co-permittees shall each 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 will be described in the Collection System O & M Plan required pursuant to Section D.5. below.

2. Preventative Maintenance Program

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

3. Infiltration/Inflow:

   The permittee and co-permittees shall each 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 D.5. below.

4. Collection System Mapping

   Within 30 months of the effective date of this permit, the permittee and co-permittees shall each prepare a map of each 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, interconnections with collection systems owns by other entities, and the direction of flow.

5. Collection System Operation and Maintenance Plan

The permittee and co-permittees shall each develop and implement a Collection System Operation and Maintenance Plan.

a. **Within six (6) months of the effective date of the permit**, the permittee and co-permittees shall each submit to EPA and MassDEP:

(1) A description of the collection system management goal, 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 all 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 completed, implemented, and submitted to EPA and MassDEP **within twenty-four (24) months from the effective date of the permit**. The Plan shall include:

(1) The required submittal from paragraph 5.a. above, update to reflect current information;

(2) A preventative 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;

(7) An educational public outreach program for all aspects of I/I control, particularly private inflow; and

(8) An Overflow Emergency Response Plan 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 and co-permittees shall each 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 April 30**. 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 its design flow [53.6 mgd] based on the annual average flow during the reporting year, 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.

E. ALTERNATE POWER SOURCE

In order to maintain compliance with the terms and conditions of this permit, the permittee and co-permittees shall provide an alternate power source with which to sufficiently operate the wastewater facility, as defined at 40 CFR § 122.2, which references the definition at 40 CFR § 403.3(q).

F. SLUDGE CONDITIONS

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

2. If both state and federal requirements apply to the permittee's sludge use and/or disposal practices, the permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR Part 503 apply to the following sludge use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil
   b. Surface disposal - the placement of sewage sludge in a sludge only landfill
   c. Sewage sludge incineration - the placement of sewage sludge in a sludge only incinerator.

4. The requirements of 40 CFR Part 503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR § 503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons, reed beds), or are otherwise excluded under 40 CFR § 503.6.

5. The 40 CFR Part 503 requirements including the following elements:

   - General requirements
   - Pollutant limitations
   - Operational Standards (pathogen reduction and vector attraction reduction requirements)
   - Management practices
   - Record keeping
   - Monitoring
   - Reporting

   Which of the 40 CFR Part 503 requirements apply to the permittee will depend upon the use or disposal practice followed and upon the quality of material produced by a facility. The EPA Region 1 Guidance

document, "EPA Region 1 - NPDES Permit Sludge Compliance Guidance" (November 4, 1999), may be used by the permittee to assist it in determining the applicable requirements.[1]

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

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

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

7. Under 40 CFR § 503.9(r), the permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the permittee contracts with *another* "person who prepares sewage sludge" under 40 CFR § 503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR § 503.9(r), for use or disposal, then the permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR § 503.7. If the ultimate use or disposal method is land application, the permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

8. The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19th** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). Reports shall be submitted electronically using EPA's Electronic Reporting tool ("NeT") (see "Monitoring and Reporting" section below). If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:

   a. Name and address of contractor(s) responsible for sludge preparation, use or disposal

   b. Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.

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

G. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. 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. Within 120 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. In preparing this evaluation, the permittee shall complete and submit the attached form (see **Attachment C – Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall 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).

2. 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 Part 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.

3. The permittee shall provide the EPA and MassDEP with an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in **Attachment**

D (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this permit and shall be submitted no later than **March 31st** of each year.

4. 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(c).

5. 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 Part 405 et. seq.

6. 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 I's approval under 40 CFR § 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.1.

H. SPECIAL CONDITIONS

1. Nitrogen

a. The Permittee shall continue to optimize the treatment facility operations relative to total nitrogen ("TN") removal through continued ammonia removal, maximization of solids retention time while maintaining compliance with BOD5 and TSS limits, and/or other operational changes designed to enhance the removal of nitrogen.

b. The permittee shall submit an annual report to EPA and the MassDEP by February 1st of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous calendar year. The report shall also include all supporting data.

c. **Annually, no later than April 30th**, the permittee shall submit a report evaluating the impact of CSO abatement projects on nitrogen loads discharged from the WWTF. The report shall include a comparison of 2012-2016 conditions with conditions as of the date of the report with respect to the volume of sanitary sewage and of stormwater discharged through CSOs and through the WWTF. The report shall also include the expected change in volume and nitrogen load from the WWTF from sanitary sewage and stormwater flows in connection with CSO mitigation projects not included in the analysis of conditions as of the report date, but expected to be completed within the following five years.

I. MONITORING AND REPORTING

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

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

The permittee may consolidate reporting information which are on similar reporting schedules, in order to reduce or eliminate redundancy.

1. Submittal of DMRs Using NetDMR

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

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.E.5. for more information on state reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR.

3. Submittal of Pre-treatment Related Reports

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

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

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

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

4. Submittal of Biosolids/Sewage Sludge Reports

By **February 19** of each year, the permittee must electronically report their annual Biosolids/Sewage Sludge Report for the previous calendar year using EPA's NPDES Electronic Reporting Tool found on the internet at https://www.epa.gov/compliance/npdes-ereporting.

5. Submittal of Requests and Reports to EPA/OEP

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

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

These reports, information, and requests shall be submitted to EPA/OEP electronically at R1NPDESNotices.OEP@epa.gov or by hard copy mail to the following address:

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

6. Submittal of Reports in Hard Copy Form

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

A. Written notifications required under Part II
B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
C. CSO Public Notification Plan
D. Collection System Operation and Maintenance Plan
E. Report on annual activities related to O&M Plan

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

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

7. State Reporting

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.F.3., I.F.4. and I.F.5. also shall be submitted to the State at the following addresses:

MassDEP – Western Region
Bureau of Water Resources
436 Dwight Street, Suite 402
Springfield, MA 01103

Copies of toxicity tests and nitrogen optimization reports only shall be submitted to:

Massachusetts Department of Environmental Protection
Watershed Planning Program
8 New Bond Street
Worcester, MA 01606

6. Verbal Reports and Verbal Notifications

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

EPA's Office of Environmental Stewardship: 617-918-1510

and to

MassDEP's Emergency Response: 888-304-1133.

J. STATE PERMIT CONDITIONS

1. 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

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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 CFR 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 will have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit will be effective only with respect to the Agency taking such action, and will 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 will remain in full force and effect under Federal law as an 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 will remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

Attachment A

USEPA Region I Freshwater Acute Toxicity Test Procedure and Protocol

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

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

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

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

II. METHODS

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

http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm

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

III. SAMPLE COLLECTION

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

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

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

IV. DILUTION WATER

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

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

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

and

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

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

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

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

V. TEST CONDITIONS

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

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS[1]

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

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

Footnotes:

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

EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST[1]

1.	Test Type	Static, non-renewal
2.	Temperature (°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	≥ 0.5, must bracket the permitted RWC

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

Attachment B

Freshwater Chronic Toxicity Test Procedure and Protocol

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 (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) 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: Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition. October 2002. United States Environmental Protection Agency. Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at http://www.epa.gov/waterscience/WET/ . 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 on-site 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° 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 http://www.epa.gov/region1/enforcementandassistance/dmr.html 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.

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 slightly 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 well outside the established **upper** control limits i.e. ≥3 standard deviations for IC25 values and ≥ two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

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

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]	x	x	0.5
Total Residual Chlorine (TRC)[2, 3, 4]	x		0.02
Alkalinity[4]	x	x	2.0
pH[4]	x	x	--
Specific Conductance[4]	x	x	--
Total Solids[6]	x		--
Total Dissolved Solids[6]	x		--
Ammonia[4]	x	x	0.1
Total Organic Carbon[6]	x	x	0.5
Total Metals[5]			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 2340B (hardness by calculation)
  -Method 2340C (titration)

2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 4500-CL E Low Level Amperometric Titration
  -Method 4500-CL G DPD Colorimetric Method
- USEPA 1983. Manual of Methods Analysis of Water and Wastes
  -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 and 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 http://water.epa.gov/scitech/methods/cwa/ . 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 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
  - 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
  - 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 concentration-response relationship and test sensitivity review per species per endpoint

Attachment C

Reassessment of Technically Based Industrial Pretreatment Discharge Limits

EPA - New England

Reassessment of Technically Based Industrial Discharge Limits

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

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

Please read direction below before filling out form.

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

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

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

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

ITEM III.

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

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

ITEM V.

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

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

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

Item VI.

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

(Item VI. continued)

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

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

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

ITEM VII.

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

ITEM VIII.

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

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

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

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

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

NPDES PERMIT # :

_____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance :

_____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1) EXISTING TBLLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)		
Dilution Ratio or 7Q10 (from NPDES Permit)		
SIU Flow (MGD)		
Safety Factor		N/A
Biosolids Disposal Method(s)		

ITEM II.

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

ITEM III.

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

ITEM IV.

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

_____

_____

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

If yes, explain.

_____

_____

ITEM V.

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

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

ITEM VI.

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

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

*Hardness Dependent (mg/l - CaCO3)

ITEM VII.

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

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

ITEM VIII.

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

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

Attachment D

NPDES Permit Requirement for Industrial Pretreatment Annual Report

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

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

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limits;

2. A summary of compliance and enforcement activities during the preceding year, including the number of:
   - significant industrial users inspected by POTW (include inspection dates for each industrial user),
   - significant industrial users sampled by POTW (include sampling dates for each industrial user),
   - compliance schedules issued (include list of subject users),
   - written notices of violations issued (include list of subject users),
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users) and,
   - penalties obtained (include list of subject users and penalty amounts);

3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

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

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

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

6. A detailed description of all interference and pass-through that occurred during the past year;

7. A thorough description of all investigations into interference and pass-through during the past year;

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,

10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

ATTACHMENT E

Allowable TN Load Increases

Upon the completion and documentation of the following planned combined sewer overflow project, the permittee may request an incremental increase in the total nitrogen mass loading limit. The request must be made in writing to EPA and shall include certification by a licensed civil engineer that the project achieves the flow reductions anticipated in SWSC's 2014 Integrated Wastewater Plan and is fully operational.

Project	**Allowable Incremental TN Load Increase Per Project (lbs/day)**
Phase 1 - Washburn CSO Control	5.8
Phase 1.5 - CSO 012/013/018 Modifications	0.0
Phase 2 - York Street Pump Station and River Crossing	25.6
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	26.0

NPDES PART II STANDARD CONDITIONS
(April 26, 2018)[1]

TABLE OF CONTENTS

[1] Updated July 17, 2018 to fix typographical errors.

A. GENERAL REQUIREMENTS

1. Duty to Comply

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

a. The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

b. Penalties for Violations of Permit Conditions: The Director will adjust the civil and administrative penalties listed below in accordance with the Civil Monetary Penalty Inflation Adjustment Rule (83 Fed. Reg. 1190-1194 (January 10, 2018) and the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note. See Pub. L.114-74, Section 701 (Nov. 2, 2015)). These requirements help ensure that EPA penalties keep pace with inflation. Under the above-cited 2015 amendments to inflationary adjustment law, EPA must review its statutory civil penalties each year and adjust them as necessary.

(1) Criminal Penalties

(a) *Negligent Violations.* The CWA provides that any person who negligently violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to criminal penalties of not less than $2,500 nor more than $25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than $50,000 per day of violation or by imprisonment of not more than 2 years, or both.

(b) *Knowing Violations.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than $100,000 per day of violation, or imprisonment of not more than 6 years, or both.

(c) *Knowing Endangerment.* The CWA provides that any person who knowingly violates permit conditions implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act and who knows at that time that he or she is placing another person in imminent danger of death or serious bodily injury shall upon conviction be subject to a fine of not more than $250,000 or by imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing

endangerment violation, a person shall be subject to a fine of not more than $500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in Section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than $1,000,000 and can be fined up to $2,000,000 for second or subsequent convictions.

(d) *False Statement.* The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

(2) *Civil Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(3) *Administrative Penalties*. The CWA provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act is subject to an administrative penalty as follows:

(a) *Class I Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act, the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

(b) *Class II Penalty.* Not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act the 2015 amendments to the Federal Civil Penalties Inflation Adjustment Act of 1990, 28 U.S.C. § 2461 note, and 40 C.F.R. Part 19. *See* Pub. L.114-74, Section 701 (Nov. 2, 2015); 83 Fed. Reg. 1190 (January 10, 2018).

2. Permit Actions

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

condition.

3. Duty to Provide Information

The Permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

4. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from responsibilities, liabilities or penalties to which the Permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

5. Property Rights

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

6. Confidentiality of Information

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

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

(1) The name and address of any permit applicant or Permittee;
(2) Permit applications, permits, and effluent data.

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

7. Duty to Reapply

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

8. State Authorities

Nothing in Parts 122, 123, or 124 precludes more stringent State regulation of any activity

covered by the regulations in 40 C.F.R. Parts 122, 123, and 124, whether or not under an approved State program.

9. Other Laws

The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

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

b. *Bypass not exceeding limitations.* The Permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (c) and (d) of this Section.

c. Notice

(1) *Anticipated bypass*. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass. As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by state law.

(2) *Unanticipated bypass*. The Permittee shall submit notice of an unanticipated bypass as required in paragraph D.1.e. of this part (24-hour notice). As of December 21, 2020 all notices submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or required to do so by law.

d. *Prohibition of bypass.*

(1) Bypass is prohibited, and the Director may take enforcement action against a Permittee for bypass, unless:

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

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and

(c) The Permittee submitted notices as required under paragraph 4.c of this Section.

(2) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 4.d of this Section.

5. Upset

a. *Definition*. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or

improper operation.

b. *Effect of an upset.* An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph B.5.c. of this Section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

c. *Conditions necessary for a demonstration of upset.* A Permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the Permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated; and
(3) The Permittee submitted notice of the upset as required in paragraph D.1.e.2.b. (24-hour notice).
(4) The Permittee complied with any remedial measures required under B.3. above.

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

C. MONITORING REQUIREMENTS

1. Monitoring and Records

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

b. Except for records of monitoring information required by this permit related to the Permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least 5 years (or longer as required by 40 C.F.R. § 503), the Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.

c. Records of monitoring information shall include:

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

d. Monitoring must be conducted according to test procedures approved under 40 C.F.R. § 136 unless another method is required under 40 C.F.R. Subchapters N or O.

e. The Clean Water Act provides that any person who falsifies, tampers with, or

knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than $20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

2. Inspection and Entry

The Permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

a. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

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

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

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

D. REPORTING REQUIREMENTS

1. Reporting Requirements

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

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 C.F.R. § 122.29(b); or

(2) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements at 40 C.F.R. § 122.42(a)(1).

(3) The alteration or addition results in a significant change in the Permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

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

c. *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act. *See* 40 C.F.R. § 122.61; in some cases, modification or revocation and reissuance is mandatory.

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

(1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices. As of December 21, 2016 all reports and forms submitted in compliance with this Section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to report electronically if specified by a particular permit or if required to do so by State law.

(2) If the Permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 C.F.R. § 136, or another method required for an industry-specific waste stream under 40 C.F.R. Subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

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

e. *Twenty-four hour reporting.*

(1) The Permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Permittee becomes aware of the circumstances. A written report shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written report shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports must include the data described above (with the exception of time of discovery) as well as the type of event (combined sewer overflows, sanitary sewer overflows, or bypass events), type of sewer overflow structure (e.g., manhole, combined sewer overflow outfall), discharge volumes untreated by the treatment works treating domestic sewage, types of human health and environmental impacts of the sewer overflow event, and whether the noncompliance was related to wet weather. As of December 21, 2020 all

reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases Subpart D to Part 3), § 122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section.

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

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

(3) The Director may waive the written report on a case-by-case basis for reports under paragraph D.1.e. of this Section if the oral report has been received within 24 hours.

f. *Compliance Schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

g. *Other noncompliance.* The Permittee shall report all instances of noncompliance not reported under paragraphs D.1.d., D.1.e., and D.1.f. of this Section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph D.1.e. of this Section. For noncompliance events related to combined sewer overflows, sanitary sewer overflows, or bypass events, these reports shall contain the information described in paragraph D.1.e. and the applicable required data in Appendix A to 40 C.F.R. Part 127. As of December 21, 2020 all reports related to combined sewer overflows, sanitary sewer overflows, or bypass events submitted in compliance with this section must be submitted electronically by the Permittee to the Director or initial recipient, as defined in 40 C.F.R. § 127.2(b), in compliance with this Section and 40 C.F.R. Part 3 (including, in all cases, Subpart D to Part 3), §122.22, and 40 C.F.R. Part 127. Part 127 is not intended to undo existing requirements for electronic reporting. Prior to this date, and independent of Part 127, Permittees may be required to electronically submit reports related to combined sewer overflows, sanitary sewer overflows, or bypass events under this section by a particular permit or if required to do so by state law. The Director may also require Permittees to electronically submit reports not related to combined sewer overflows, sanitary sewer overflows, or bypass events under this Section.

h. *Other information.* Where the Permittee becomes aware that it failed to submit any

relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

i. *Identification of the initial recipient for NPDES electronic reporting data*. The owner, operator, or the duly authorized representative of an NPDES-regulated entity is required to electronically submit the required NPDES information (as specified in Appendix A to 40 C.F.R. Part 127) to the appropriate initial recipient, as determined by EPA, and as defined in 40 C.F.R. § 127.2(b). EPA will identify and publish the list of initial recipients on its Web site and in the FEDERAL REGISTER, by state and by NPDES data group (see 40 C.F.R. § 127.2(c) of this Chapter). EPA will update and maintain this listing.

2. Signatory Requirement

a. All applications, reports, or information submitted to the Director shall be signed and certified. *See* 40 C.F.R. §122.22.

b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than $10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

3. Availability of Reports.

Except for data determined to be confidential under paragraph A.6. above, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the State water pollution control agency and the Director. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the CWA.

E. DEFINITIONS AND ABBREVIATIONS

1. General Definitions

For more definitions related to sludge use and disposal requirements, see EPA Region 1's NPDES Permit Sludge Compliance Guidance document (4 November 1999, modified to add regulatory definitions, April 2018).

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

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

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

"approved States," including any approved modifications or revisions.

Approved program or *approved State* means a State or interstate program which has been approved or authorized by EPA under Part 123.

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

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

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

Bypass see B.4.a.1 above.

C-NOEC or *"Chronic (Long-term Exposure Test) – No Observed Effect Concentration" means* the highest tested concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specified time of observation.

Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 C.F.R. § 501.2, required to have an approved pretreatment program under 40 C.F.R. § 403.8 (a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 C.F.R. § 403.10 (e)) and any treatment works treating domestic sewage, as defined in 40 C.F.R. § 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

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

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

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

CWA and regulations means the Clean Water Act (CWA) and applicable regulations promulgated thereunder. In the case of an approved State program, it includes State program requirements.

Daily Discharge means the "discharge of a pollutant" measured during a calendar day or any

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

Direct Discharge means the "discharge of a pollutant."

Director means the Regional Administrator or an authorized representative. In the case of a permit also issued under Massachusetts' authority, it also refers to the Director of the Division of Watershed Management, Department of Environmental Protection, Commonwealth of Massachusetts.

Discharge

(a) When used without qualification, *discharge* means the "discharge of a pollutant."

(b) As used in the definitions for "interference" and "pass through," *discharge* means the introduction of pollutants into a POTW from any non-domestic source regulated under Section 307(b), (c) or (d) of the Act.

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

Discharge of a pollutant means:

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

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

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger."

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

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

Environmental Protection Agency ("EPA") means the United States Environmental Protection

Agency.

Grab Sample means an individual sample collected in a period of less than 15 minutes.

Hazardous substance means any substance designated under 40 C.F.R. Part 116 pursuant to Section 311 of CWA.

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

Indirect discharger means a nondomestic discharger introducing "pollutants" to a "publicly owned treatment works."

Interference means a discharge (see definition above) which, alone or in conjunction with a discharge or discharges from other sources, both:

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

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

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

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

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

LC_{50} means the concentration of a sample that causes mortality of 50% of the test population at a specific time of observation. The LC_{50} = 100% is defined as a sample of undiluted effluent.

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

Municipal solid waste landfill (MSWLF) unit means a discrete area of land or an excavation that receives household waste, and that is not a land application unit, surface impoundment, injection well, or waste pile, as those terms are defined under 40 C.F.R. § 257.2. A MSWLF unit also may receive other types of RCRA Subtitle D wastes, such as commercial solid waste, nonhazardous sludge, very small quantity generator waste and industrial solid waste. Such a landfill may be

publicly or privately owned. A MSWLF unit may be a new MSWLF unit, an existing MSWLF unit or a lateral expansion. A construction and demolition landfill that receives residential lead-based paint waste and does not receive any other household waste is not a MSWLF unit.

Municipality

(a) When used without qualification *municipality* means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.

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

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

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

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

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

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

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

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

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

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

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

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

NPDES means "National Pollutant Discharge Elimination System."

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

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

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

Permit means an authorization, license, or equivalent control document issued by EPA or an "approved State" to implement the requirements of Parts 122, 123, and 124. "Permit" includes an NPDES "general permit" (40 C.F.R § 122.28). "Permit" does not include any permit which has not yet been the subject of final agency action, such as a "draft permit" or "proposed permit."

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

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

pH means the logarithm of the reciprocal of the hydrogen ion concentration measured at 25° Centigrade or measured at another temperature and then converted to an equivalent value at 25° Centigrade.

Point Source means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural storm water runoff (see 40 C.F.R. § 122.3).

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials

(except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq*.)), heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water. It does not mean:

(a) Sewage from vessels; or

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

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

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

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

Publicly owned treatment works (POTW) means a treatment works as defined by Section 212 of the Act, which is owned by a State or municipality (as defined by Section 504(4) of the Act). This definition 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.

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

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

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

Sewage Sludge means any solid, semi-solid, or liquid residue removed during the treatment of municipal waste water or domestic sewage. Sewage sludge includes, but is not limited to, solids removed during primary, secondary, or advanced waste water treatment, scum, septage, portable toilet pumpings, type III marine sanitation device pumpings (33 C.F.R. Part 159), and sewage sludge products. Sewage sludge does not include grit or screenings, or ash generated during the incineration of sewage sludge.

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

Sewage sludge unit is land on which only sewage sludge is placed for final disposal. This does

not include land on which sewage sludge is either stored or treated. Land does not include waters of the United States, as defined in 40 C.F.R. § 122.2.

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

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

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

Sludge-only facility means any "treatment works treating domestic sewage" whose methods of sewage sludge use or disposal are subject to regulations promulgated pursuant to section 405(d) of the CWA, and is required to obtain a permit under 40 C.F.R. § 122.1(b)(2).

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, the Trust Territory of the Pacific Islands, or an Indian Tribe as defined in the regulations which meets the requirements of 40 C.F.R. § 123.31.

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

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

Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant.

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

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

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

For purposes of this definition, "domestic sewage" includes waste and waste water from humans or household operations that are discharged to or otherwise enter a treatment works. In States where there is no approved State sludge management program under Section 405(f) of the CWA, the Director may designate any person subject to the standards for sewage sludge use and

disposal in 40 C.F.R. Part 503 as a "treatment works treating domestic sewage," where he or she finds that there is a potential for adverse effects on public health and the environment from poor sludge quality or poor sludge handling, use or disposal practices, or where he or she finds that such designation is necessary to ensure that such person is in compliance with 40 C.F.R. Part 503.

Upset see B.5.a. above.

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

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

Waters of the United States or waters of the U.S. means:

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

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

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

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

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

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

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

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

(f) The territorial sea; and

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

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 C.F.R. § 423.11(m) which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to manmade bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland.

Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

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

Whole Effluent Toxicity (WET) means the aggregate toxic effect of an effluent measured directly by a toxicity test.

*Zone of Initial Dilution (*ZID) means the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports, provided that the ZID may not be larger than allowed by mixing zone restrictions in applicable water quality standards.

2. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl_2	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)
TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont.	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M^3/day	Cubic meters per day
DO	Dissolved oxygen

kg/day	Kilograms per day
lbs/day	Pounds per day
mg/L	Milligram(s) per liter
mL/L	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH_3-N	Ammonia nitrogen as nitrogen
NO_3-N	Nitrate as nitrogen
NO_2-N	Nitrite as nitrogen
NO_3-NO_2	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
Surfactant	Surface-active agent
Temp. °C	Temperature in degrees Centigrade
Temp. °F	Temperature in degrees Fahrenheit
TOC	Total organic carbon
Total P	Total phosphorus
TSS or NFR	Total suspended solids or total nonfilterable residue
Turb. or Turbidity	Turbidity measured by the Nephelometric Method (NTU)
µg/L	Microgram(s) per liter
WET	"Whole effluent toxicity"
ZID	Zone of Initial Dilution

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

FACT SHEET SUPPLEMENT
(Supplementing the November 15, 2017 Fact Sheet provided with the November 15, 2017 draft permit)

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 NUMBER: MA0101613

PUBLIC NOTICE START AND END DATES: August 17, 2018 – September 15, 2018

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

The Massachusetts municipalities of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham are co-permittees for specific activities required by the revised draft permit, as described in Sections I.C. and I.D. of the revised draft permit. The responsible municipal departments are:

Town of Agawam Department of Public Works 1000 Suffield St Agawam, MA 01001	Town of East Longmeadow Department of Public Works 60 Center Square, 2nd Floor East Longmeadow, MA 01028	Town of Longmeadow Department of Public Works 31 Pondside Road Longmeadow, MA 01106
Town of Ludlow Department of Public Works 198 Sportsmans Road Ludlow, MA 01056	Town of West Springfield Department of Public Works 26 Central Street, Suite 17 West Springfield, MA 01089	Town of Wilbraham Department of Public Works 240 Springfield St. Wilbraham, MA 01095

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility ("SRWWTF" or the "Facility" or "Bondi Island")
Route 5 Bondi Island
Agawam, MA 01001

and 24 Combined Sewer Overflows located in Springfield and Agawam, MA

FACT SHEET SUPPLEMENT

1. Introduction

The Region 1 Office of the United States Environmental Protection Agency ("EPA" or the "Agency") and the Massachusetts Department of Environmental Protection ("MassDEP") are exercising their discretion, based on public comments, to provide additional opportunity for comment on certain revisions to the draft permit to further inform the permit proceedings and improve the agencies' decision making regarding the draft National Pollutant Discharge Elimination System ("NDPES") permit for the Springfield Water and Sewer Commission Regional Waste Water Treatment Facility (referred to herein as the "facility") in Agawam, MA. EPA is in the process of reissuing the NPDES permit under Section 402 of the Clean Water Act (CWA). 33 U.S.C. § 1342. As provided in 40 CFR § 124.14(c), any comment filed during this public comment period shall be limited to the following proposed conditions in the Draft Permit:

1) Revised total nitrogen requirements in Parts I.A.1 and I.H and
2) Revised combined sewer overflow (CSO) requirements in Part I.B.

These issues and questions are discussed in this Fact Sheet Supplement.

2. Background

EPA last issued a new Final NPDES Permit to the Springfield Water and Sewer Commission ("SWSC" or the "Commission") on December 8, 2000. The permit expired in February 2006, but was administratively continued in 2006 as a result of SWSC's timely application for permit renewal pursuant to 40 C.F.R. § 122.6.

EPA published a new Draft Permit for public notice and comment on November 15, 2017 (the "2017 Draft Permit"). Upon request from the permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests from the Connecticut Department of Energy and Environmental Protection ("CTDEEP") and others for a public hearing, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 to facilitate an April 24, 2018 public hearing.

During the public notice and comment periods on the 2017 Draft Permit, EPA received comment letters from nine parties including the SWSC; the Towns of Agawam, East Longmeadow, Longmeadow, West Springfield and Wilbraham; CTDEEP; the Connecticut Fund for the Environment; the Connecticut River Conservancy; and the Massachusetts Water Resource Authority. In addition, representatives from the SWSC, CTDEEP, the Connecticut Fund for the Environment and the Connecticut River Conservancy provided oral testimony at the public hearing.

Since the closure of the public notice and comment periods for the 2017 Draft Permit, EPA has been considering all of the public comments received on the 2017 Draft Permit and developing

the new Final Permit. After consideration of all the comments, EPA and MassDEP agree that nitrogen and CSO notification requirements that differ from those which were proposed in the Draft Permit will need to be imposed in order to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River as explained in the sections that follow.

3. Total Nitrogen

The 2017 Draft Permit proposed a requirement to monitor and report total nitrogen ("TN") concentrations and mass loadings while optimizing system operation to meet an annual average mass-based TN optimization benchmark of 2,279 lbs/day. The optimization benchmark was intended to be an indication of successful optimization rather than an enforceable limit. The optimization requirement and associated benchmark proposed in the 2017 Draft Permit is consistent with the approach taken by EPA and MassDEP for smaller Massachusetts facilities with discharges to tributaries of Long Island Sound ("LIS").

In the 2017 Fact Sheet, EPA and MassDEP offered two other nitrogen control alternatives for public notice and comment. Both of these alternatives were also optimization requirements with variations on the benchmarks, as provided in Table 4 on page 19 the 2017 Fact Sheet. However, as it was pointed out in comments received from CTDEEP and other commenters, an optimization benchmark cannot provide assurance that the cumulative nitrogen load to the LIS will not exceed the out-of-basin (Massachusetts, New Hampshire and Vermont) point source wasteload allocation established by the LIS Total Maximum Daily Load ("TMDL"). In particular, commenters pointed out that TN loads discharged from the facility over the past ten years have not decreased and may be increasing, as shown in the figure in Attachment A to this Fact Sheet Supplement. The Springfield facility is the largest out-of-basin contributor of TN loading in the Connecticut River watershed and is also the closest out-of-basin major point source contributor to Connecticut's portion of the Connecticut River.

In order to assure that Springfield's TN load does not increase to a degree that would contribute to an exceedance of the TN out-of-basin wasteload allocation from the 2001 TMDL and in consideration of the facts and arguments presented in the comments and in the testimonies presented at the public hearing, an annual average TN loading limit of 2,534 lbs/day is proposed in the revised Draft Permit rather than an optimization benchmark. This value is the maximum annual average TN load discharged from the facility from 2012-2016 (See Attachment H of the 2017 Fact Sheet). This limit would meet the TMDL target of a 25% reduction in TN loadings from baseline loadings, since the estimated load to the Connecticut River from out-of-basin point sources would be 14,772 lbs/day[1]. This is less than the TMDL target of 16,254 lbs/day, allowing for non-POTW point source loadings as well as any possible new point source discharges.

[1]An annual average TN load of 2,534 lbs/day is 886 lbs/day greater than the TN load discharged in 2004, which was used in EPA's 2006 analysis of out-of-basin point sources to the CT River Watershed (see 2017 Fact Sheet Table 3 and Attachments G and H). This increase would bring the total estimated loadings to the CT River from out-of-basin point sources to 14,772 lbs/day, which is below the TMDL target of 16,254 lbs/day.

In recognition of SWSC's Integrated Wastewater Plan (which incorporates SWSC's Long Term Control Plan) to reduce CSOs by increasing its storage in the Collection System and its conveyance of flow to the treatment facility, the revised Draft Permit proposes to allow incremental increases in the proposed 2,534 lbs/day annual average load limit upon the completion of planned individual CSO abatement projects, as shown below in Table 1.

Table 1 Projected Connecticut River Interceptor (CRI) Annual CSO Volume Reductions and Allowable Incremental TN Load Increases Following Completion of Planned CSO Mitigation Projects

Project	Baseline Condition (CRI Total) (MG/Year)[1]	Estimated Annual CSO Volume Following Project Completion (MG/year)	Estimated CSO Volume Reduction From Baseline Conditions Following Project Completion(MG/Year)[3]	Allowable Incremental TN Load Increase (Lbs/Year)[4,5]	Allowable Incremental TN Load Increase (average Lbs/day)[5,6]
Phase I - Washburn CSO Control	441	390	51	2127	5.8
Phase I.5 - CSO 012/013/018 Modifications	441	390	0	0	0.0
Phase 2 - York Street Pump Station and River Crossing	441	216.7	224.3	9353	25.6
Phase 3 - Locust Transfer Structure/Conduit and Flow Optimization in Mill System	441	213	228	9508	26.0
Total Load Increase				**20987.61**	**57.5**

[1]Baseline Condition (model year 1976 – Connecticut River Interceptor (CRI) Totals) – see SWSC 2014 Integrated Wastewater Plan, Table ES.4-1
[2]Estimated Annual CSO Volume Following Project Completion – see SWSC 2014 Integrated Wastewater Plan, Table ES.6-3.
[4]Estimated CSO Volume Reductions From Baseline Conditions Following Project Completion = (Baseline Condition CSO Volume Following Project Completion (MG/Year)
[4]Allowable Incremental TN Load Increase (lbs/day) = [Estimated CSO Reduction From Baseline Conditions Following Project Completion (MG/Year) * Assumed TN Concentration in combined sewage (5 mg/l) * 8.34]
[5]Estimated TN Concentration in Combined Sewage – See *EPA Report to Congress: Impacts and Control of CSOs and SSOs* , Table 4.6 [EPA 2004 (EPA 833-R-04-001)]: Total Kjeldahl Nitrogen concentration in combined sewage (median of 373 samples)) = 3.6 mg/l. Total Nitrogen concentration in combined sewers estimated to be 5 mg/l to account for NO_2 and NO_3.
[6]Allowable Incremental TN Load Increase (lbs/day) = [(Allowable Incremental TN Load Increase (lbs/year)) * (1 year/365 days)]

As can be seem from Table 1, the net increase in the TN effluent limit would be 58 lbs/day upon completion of all four of the CSO abatement projects, to be completed, resulting in an estimated load to the Connecticut River (accounting for out-of-basin point sources) of 14,830 lbs/day, which is below the TMDL target of 16,254 lbs/day. The allowable incremental TN increases are included in the draft revised permit as Attachment E.

4. CSO Notification Requirements

The 2017 Draft Permit proposed requirements for the development and implementation of a plan for notifying the public of CSO activations ("Public Notification Plan"), including requirements to provide notification of a probable CSO activation within 24 hours of the initiation of any CSO discharge as well as subsequent notification to confirm the occurrence of a discharge and to provide discharge-specific information.

Several commenters, including the downstream State of Connecticut, questioned the adequacy of the notification requirements in the 2017 Draft Permit for protecting recreational uses in the Connecticut River. Specifically, commenters argued that a 24-hour notification requirement would not be protective of recreational uses in the Connecticut River both in the Massachusetts and Connecticut affected reaches. The State of Connecticut, which is immediately downstream of Springfield, currently has a "real-time" notification requirement for anticipated CSOs in statute and has developed a state sponsored website for the public to use to identify likely active CSOs. The estimated travel time from Springfield to the Connecticut border is two hours under average flow conditions. In consideration of the concerns raised during the comment period, EPA is proposing a requirement in the revised Draft Permit for the permittee to provide initial notification to the public of a probable CSO discharge no later than two (2) hours after becoming aware of a likely CSO discharge. This notification may be based on modeling estimates of discharge(s) based on rainfall (or other predictive modeling methodologies) rather than on actual CSO discharge measurements.

The revised Draft Permit requires the initial notification to be followed by supplemental notification within twenty-four hours of the cessation of a discharge event to confirm whether an actual discharge occurred, and if so, to include information specific to each discharge, including the CSO outfall number and location, total volume discharged, the date of the discharge as well as the time the discharge commenced and ceased.

In addition, the revised Draft Permit requires the permittee to provide the public with an annual notification that includes the following information: location of each CSO, a summary of CSO activations and volumes, status and progress of CSO abatement work, and contacts for additional information on CSOs and water quality.

These public notification requirements are reasonable given the uses of the receiving water, the proximity of the discharges to the Connecticut border, and the estimated time of travel from the discharges to the border. Further, these requirements are consistent with Nine Minimum Control #8 (public notification to ensure that the public receives adequate notification of CSO occurrences and impacts), in accordance with the CSO Control Policy.

Attachment A

Springfield Regional Waste Water Treatment Facility – Annual Average Total Nitrogen (2007-2017)

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
1/31/2007	45.7	0.842	3.53	4.372	1,666	4.372	1,666
2/28/2007	47.5	0.606	5.6	6.206	2,459	6.206	2,459
3/31/2007	43.9	0.234	4.41	4.644	1,700	4.644	1,700
4/30/2007	45.2	1.18	1.18	2.36	890	2.36	890
5/31/2007	44.9	0.131	2.94	3.071	1,150	3.071	1,150
6/30/2007	43.7	2.81	2.24	5.05	1,841	5.05	1,841
7/31/2007	42.8	6.75	3.64	10.39	3,709	10.39	3,709
8/31/2007	42.3	3.21	2.35	5.56	1,961	5.56	1,961
9/30/2007	41.9	3.36	1.47	4.83	1,688	4.83	1,688
10/31/2007	41.3	266	0	266	91,622	NA	NA
11/30/2007	40.4	2.1	1.54	3.64	1,226	3.64	1,226
12/31/2007	39.8	2.37	2.16	4.53	1,504	4.53	1,504
1/31/2008	39.5	1.79	1.29	3.08	1,015	3.08	1,015
2/29/2008	41.5	2.64	1.18	3.82	1,322	3.82	1,322
3/31/2008	42.5	1.86	1.18	3.04	1,078	3.04	1,078
4/30/2008	41.8	2.37	1.47	3.84	1,339	3.84	1,339
5/31/2008	41.7	3.08	3.23	6.31	2,194	6.31	2,194
6/30/2008	41.9	3.92	2.16	6.08	2,125	6.08	2,125
7/31/2008	42.6	2.46	1.79	4.25	1,510	4.25	1,510
8/31/2008	43.7	2.81	1.67	4.48	1,633	4.48	1,633
9/30/2008	45	3.34	2.162	5.502	2,065	5.502	2,065
10/31/2008	45.6	3.38	2.35	5.73	2,179	5.73	2,179
11/30/2008	46.1	2.96	1.45	4.41	1,696	4.41	1,696
12/31/2008	47.6	1.73	1.37	3.1	1,231	3.1	1,231
1/31/2009	48.1	3.24	2.07	5.31	2,130	5.31	2,130

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
2/28/2009	46.7	3.19	3.49	6.68	2,602	6.68	2,602
3/31/2009	45.8	3.39	1.6	4.99	1,906	4.99	1,906
4/30/2009	45.1	3.79	2.31	6.1	2,294	6.1	2,294
5/31/2009	44.8	5	2.45	7.45	2,784	7.45	2,784
6/30/2009	44.8	4.89	3.2	8.09	3,023	8.09	3,023
7/31/2009	45.1	3.28	2.5	5.78	2,174	5.78	2,174
8/31/2009	44.9	4.88	1.2	6.08	2,277	6.08	2,277
9/30/2009	44	2.87	0	2.87	1,053	2.87	1,053
10/31/2009	43.7	2.743	2.8	5.543	2,020	5.543	2,020
11/30/2009	43.3	0.78	3.4	4.18	1,509	4.18	1,509
12/31/2009	43.3	0.65	10	10.65	3,846	10.65	3,846
1/31/2010	42	1.3	2.5	3.8	1,331	3.8	1,331
2/28/2010	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2010	38.1	0.67	6.7	7.37	2,342	7.37	2,342
4/30/2010	42.3	3.356	1.8	5.156	1,819	5.156	1,819
5/31/2010	42.2	1.5	1.5	3	1,056	3	1,056
6/30/2010	41.7	5.82	1.7	7.52	2,615	7.52	2,615
7/31/2010	40.2	2.8	2.5	5.3	1,777	5.3	1,777
8/31/2010	39	2.659	2.8	5.459	1,776	5.459	1,776
9/30/2010	38.5	4.42	2	6.42	2,061	6.42	2,061
10/31/2010	38.3	7.569	1.1	8.669	2,769	8.669	2,769
11/30/2010	38.4	2.467	2.2	4.667	1,495	4.667	1,495
12/31/2010	38.1	2.059	1.5	3.559	1,131	3.559	1,131
1/31/2011	37.5	1.28	2.1	3.38	1,057	3.38	1,057
2/28/2011	37.3	1.478	2.1	3.578	1,113	3.578	1,113
3/31/2011	38.1	0.669	6.7	7.369	2,342	7.369	2,342
4/30/2011	38.4	0.273	7.6	7.873	2,521	7.873	2,521
5/31/2011	39.3	0.158	6.4	6.558	2,149	6.558	2,149
6/30/2011	40.4	0.354	7.1	7.454	2,512	7.454	2,512
7/31/2011	41.1	3.17	2.8	5.97	2,046	5.97	2,046
8/31/2011	42.1	1.986	2.1	4.086	1,435	4.086	1,435
9/30/2011	43.8	0.339	2.8	3.139	1,147	3.139	1,147
10/31/2011	44.9	2.363	1.1	3.463	1,297	3.463	1,297
11/30/2011	46.1	2.31	2.1	4.41	1,696	4.41	1,696

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
12/31/2011	47.4	0.445	2.4	2.845	1,125	2.845	1,125
1/31/2012	48.5	0.016	7.8	7.816	3,161	7.816	3,161
2/29/2012	48.7	0.455	9.6	10.055	4,084	10.055	4,084
3/31/2012	47.2	0.017	5	5.017	1,975	5.017	1,975
4/30/2012	46	0.884	7.2	8.084	3,101	8.084	3,101
5/31/2012	45	1.766	2.5	4.266	1,601	4.266	1,601
6/30/2012	44.1	0.339	3.9	4.239	1,559	4.239	1,559
7/31/2012	43.6	2.173	1.9	4.073	1,481	4.073	1,481
8/31/2012	43	2.266	1.4	3.666	1,315	3.666	1,315
9/30/2012	41.4	2.675	1.6	4.275	1,476	4.275	1,476
10/31/2012	40.2	0.92	8.1	9.02	3,024	9.02	3,024
11/30/2012	38.6	1.437	13	14.437	4,648	14.437	4,648
12/31/2012	37	0.84	8.4	9.24	2,851	9.24	2,851
1/31/2013	36.1	0.602	9.5	10.102	3,041	10.102	3,041
2/28/2013	35.7	0.393	11	11.393	3,392	11.393	3,392
3/31/2013	35.7	2.848	2.1	4.948	1,473	4.948	1,473
4/30/2013	35.6	1.58	2.9	4.48	1,330	4.48	1,330
5/31/2013	35.7	0.433	8	8.433	2,511	8.433	2,511
6/30/2013	37	3.81	2.9	6.71	2,071	6.71	2,071
7/31/2013	37.8	2.31	2.9	5.21	1,642	5.21	1,642
8/31/2013	38	0.545	10	10.545	3,342	10.545	3,342
9/30/2013	38.1	0.23	15	15.23	4,839	NA	4,839
10/31/2013	37.9	2.64	2.2	4.84	1,530	4.84	1,530
11/30/2013	37.9	4.539	2.8	7.339	2,320	7.339	2,320
12/31/2013	37.9	5.444	3.8	9.244	2,922	9.244	2,922
1/31/2014	38.5	0.11	2.4	2.51	806	2.51	806
2/28/2014	38.5	5.29	3.9	9.19	2,951	9.19	2,951
3/31/2014	38.7	3.71	6.1	9.81	3,166	9.81	3,166
4/30/2014	40	2.871	7.2	10.071	3,360	10.071	3,360
5/31/2014	41	2.64	4.5	7.14	2,441	7.14	2,441
6/30/2014	39.9	4.241	2.7	6.941	2,310	6.941	2,310
7/31/2014	39.6	2.669	1.6	4.269	1,410	4.269	1,410
8/31/2014	39.4	3.237	2.1	5.337	1,754	5.337	1,754

Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
9/30/2014	39.2	7.363	3.2	10.563	3,453	10.563	3,453
10/31/2014	39.4	3.493	2.4	5.893	1,936	5.893	1,936
11/30/2014	39.5	3.11	2.2	5.31	1,749	5.31	1,749
12/31/2014	40	3.099	4.1	7.199	2,402	7.199	2,402
1/31/2015	39.7	3.484	4.1	7.584	2,511	7.584	2,511
2/28/2015	39.4	2.41	5.3	7.71	2,533	7.71	2,533
3/31/2015	39.3	1.149	5.9	7.049	2,310	7.049	2,310
4/30/2015	38.8	1.446	4.1	5.546	1,795	5.546	1,795
5/31/2015	37.4	2.062	5.6	7.662	2,390	7.662	2,390
6/30/2015	37.4	1.323	5.3	6.623	2,066	6.623	2,066
7/31/2015	37.1	3.08	6.2	9.28	2,871	9.28	2,871
8/31/2015	36.7	5.16	2.8	7.96	2,436	7.96	2,436
9/30/2015	36.6	3.311	4.3	7.611	2,323	7.611	2,323
10/31/2015	36.2	4.686	3.5	8.186	2,471	8.186	2,471
11/30/2015	35.8	5.96	3.2	9.16	2,735	9.16	2,735
12/31/2015	35.2	4.91	2.1	7.01	2,058	7.01	2,058
1/31/2016	35	0.088	3.9	3.988	1,164	3.988	1,164
2/29/2016	35.5	1.51	7.1	8.61	2,549	8.61	2,549
3/31/2016	35.3	2.379	4.5	6.879	2,025	6.879	2,025
4/30/2016	34.5	0.935	3.2	4.135	1,190	4.135	1,190
5/31/2016	34.3	2.043	2.8	4.843	1,385	4.843	1,385
6/30/2016	33.6	0.989	3.5	4.489	1,258	4.489	1,258
7/31/2016	33.1	0.88	5.8	6.68	1,844	6.68	1,844
8/31/2016	33.1	1.431	3.4	4.831	1,334	4.831	1,334
9/30/2016	32.9	4.983	6.5	11.483	3,151	11.483	3,151
10/31/2016	32.9	1.822	4.5	6.322	1,735	6.322	1,735
11/30/2016	32.9	0.455	4.5	4.955	1,360	4.955	1,360
12/31/2016	32.6	0.161	2.8	2.961	805	2.961	805
1/31/2017	32.4	3.5	3.9	7.4	2,000	7.4	2,000
2/28/2017	32	1.609	6.15	7.759	2,071	7.759	2,071
3/31/2017	31.8	2.27	5.8	8.07	2,140	8.07	2,140
4/30/2017	32.3	3.151	2.2	5.351	1,441	5.351	1,441
5/31/2017	32.8	3.363	3.4	6.763	1,850	6.763	1,850
6/30/2017	33.4	3.51	2.9	6.41	1,786	6.41	1,786
7/31/2017	34.1	3.496	2.8	6.296	1,791	6.296	1,791

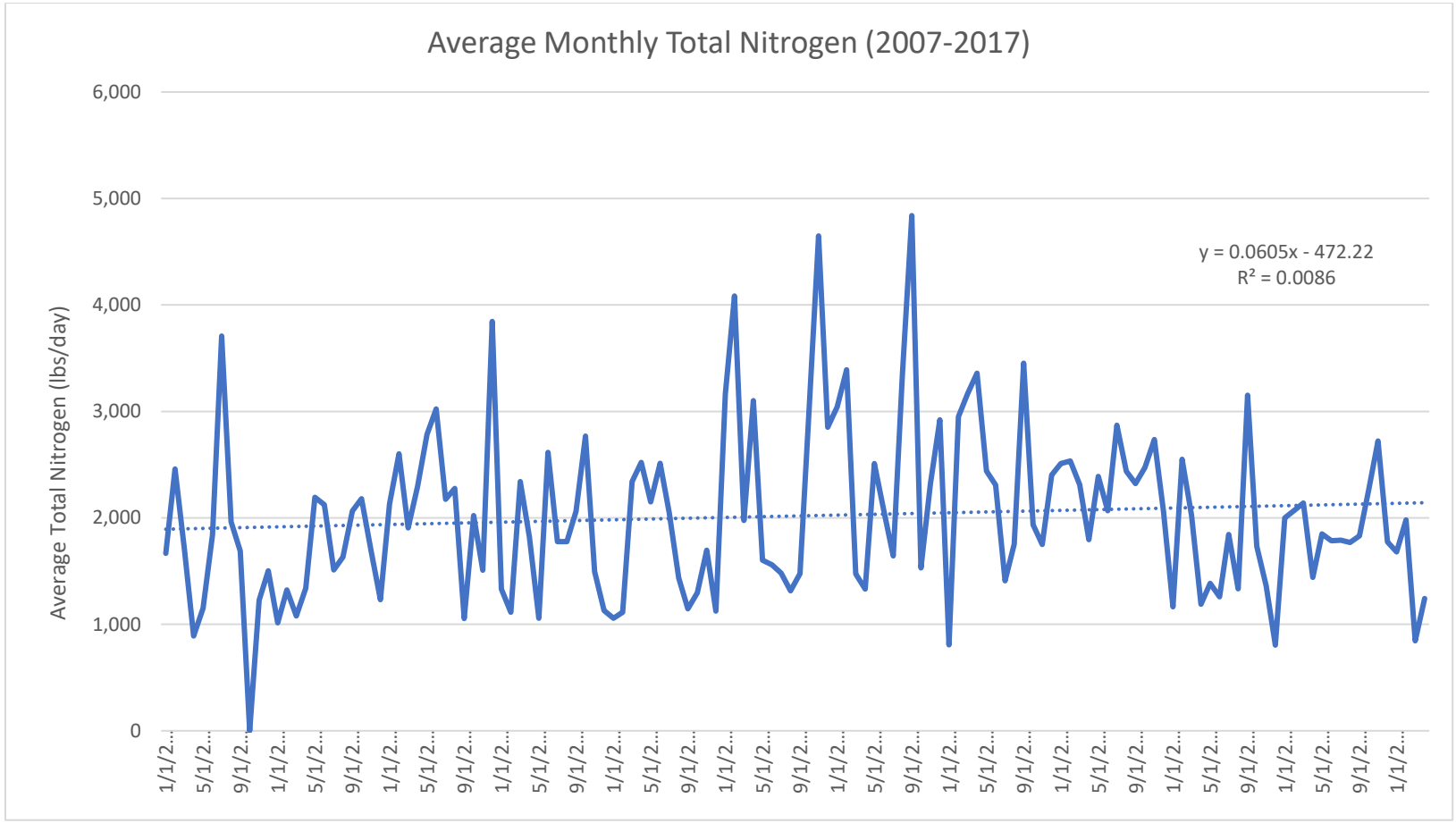
Attachment A

Monitoring Period End Date	Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen	Total Nitrogen
	Million Gallons per Day	Milligrams per Liter	Milligrams per Liter	Milligrams per Liter	lbs/day	Milligrams per Liter	lbs/day
8/31/2017	34.3	2.787	3.4	6.187	1,770	6.187	1,770
9/30/2017	34.4	2.98	3.4	6.38	1,830	6.38	1,830
10/31/2017	34.9	4.359	3.4	7.759	2,258	7.759	2,258
11/30/2017	35.4	3.62	5.6	9.22	2,722	9.22	2,722
12/31/2017	35.4	3.4	2.61	6.01	1,774	6.01	1,774

Outliers omitted

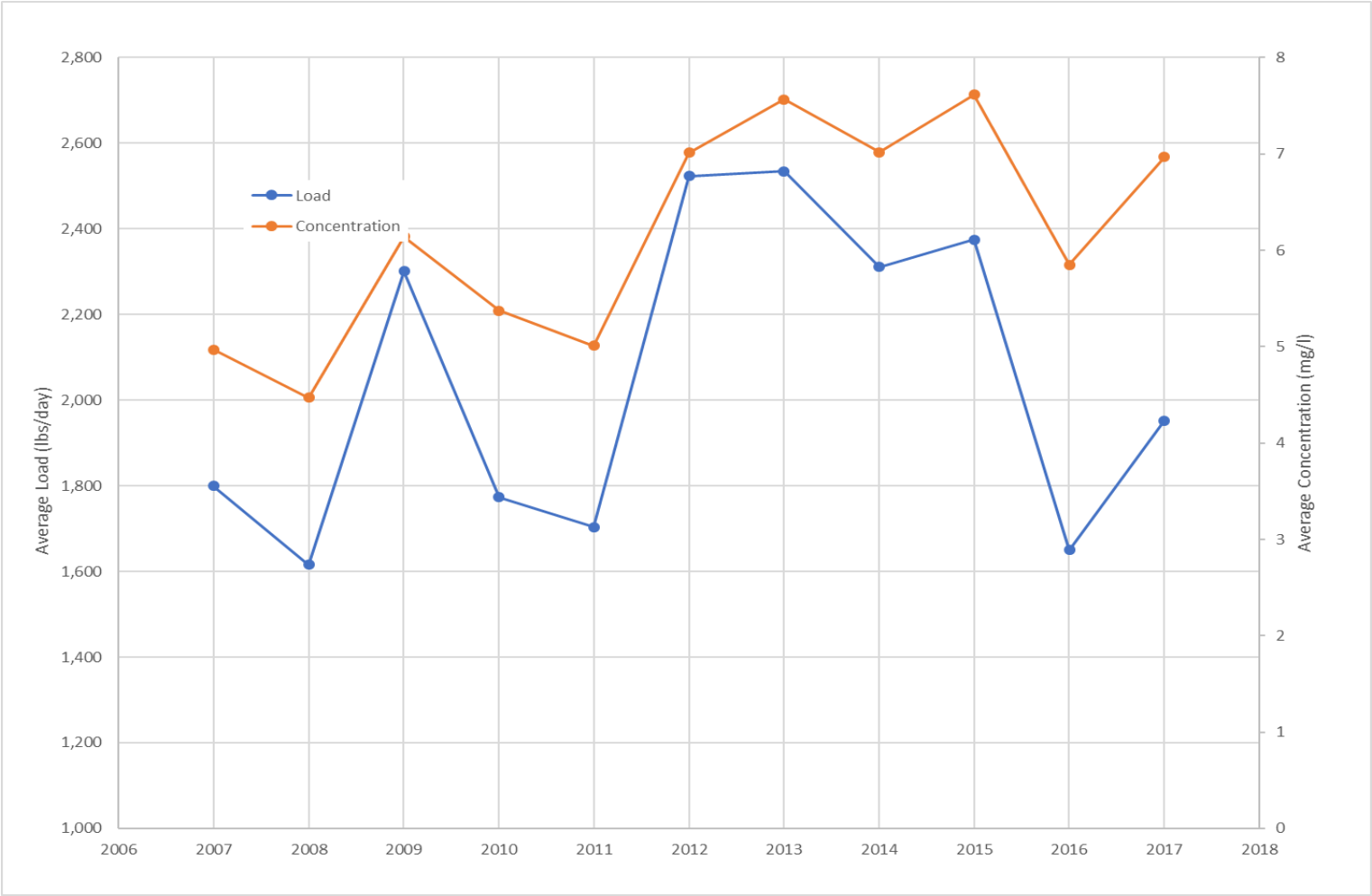
Attachment A

Springfield Regional Waste Water Treatment Facility Total Nitrogen (2007-2017)



Attachment A

Springfield Regional Waste Water Treatment Facility Annual Average Total Nitrogen (2007-2017)



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

UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A 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 PUBLIC NOTICE PERIOD: August 17, 2018 – September 15, 2018

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-015-18

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
Agawam, MA 01001

RECEIVING WATER: Connecticut River, Chicopee River and Mill River

RECEIVING WATER CLASSIFICATION: Class B – Warm Water Fishery

PREPARATION OF THE 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 revised Draft Permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally requested that the State certify this revised Draft Permit pursuant to Section 401 of the Clean Water Act and expects that the revised Draft Permit will be certified.

INFORMATION ABOUT THE REVISED DRAFT PERMIT:

The Draft Permit for the Springfield Regional Wastewater Treatment Facility was released for public comment on November 15, 2017 ("2017 Draft Permit"). Upon request from the permittee, EPA extended the initial 30-day public notice and comment period to February 12, 2018. Following requests from the

Connecticut Department of Energy and Environmental Protection ("CTDEEP") and others for a public hearing, EPA reopened the public notice and comment period from March 14, 2018 through April 27, 2018 to facilitate an April 24, 2018 public hearing. The 2017 Draft Permit established technology-based and water quality-based effluent limits on the discharges from the wastewater treatment facility and from 24 Combined Sewer Overflow Outfalls (CSOs).

EPA received numerous comments on the 2017 Draft Permit. After consideration of all the comments and supporting material, EPA and MassDEP have determined that nitrogen and CSO notification requirements that differ from those which were proposed in the 2017 Draft Permit are necessary to protect water quality in the Connecticut River and Long Island Sound and to protect recreational uses in the Connecticut River,

EPA has prepared a Revised Draft Permit and Fact Sheet Supplement that includes certain changes to these provisions from the November 15, 2017 Draft Permit. The Revised Draft Permit and explanatory Fact Sheet may be obtained at no cost at
https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits or by contacting:

Meridith Timony
US EPA
5 Post Office Square
Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1533

The administrative record containing all documents relating to this Revised Draft Permit is on file and 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 of the conditions of this Revised Draft Permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **September 15, 2018**, to the U.S. EPA, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-23912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency 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. As provided in 40 CFR § 124.14(c), the comments filed during this public comment period shall be limited to the following proposed revisions in the Draft Permit:

1) Revised total nitrogen requirements in Parts I.A.1 and I.H and
2) Revised combined sewer overflow (CSO) requirements in Part I.B.

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 AND APPEALS:

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. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

LEALDON LANGLEY, DIRECTOR
MASSACHUSETTS WETLANDS
AND WASTEWATER PROGRAMS
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02109-3912

JOINT **EXTENSION OF THE PUBLIC COMMENT PERIOD PERTAINING TO THE ISSUANCE OF A 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 ORGINAL PUBLIC NOTICE PERIOD: August 17, 2018 – September 15, 2018

PUBLIC NOTICE EXTENDED TO: October 15, 2018

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-016-18

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
Agawam, MA 01001

RECEIVING WATER: Connecticut River, Chicopee River and Mill River

RECEIVING WATER CLASSIFICATION: Class B – Warm Water Fishery

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency, (EPA) and the Massachusetts Department of Environmental Protection (MADEP) have cooperated in the development of a revised draft permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally requested that the State certify this revised draft permit pursuant to Section 401 of the Clean Water Act and expects that the revised draft permit will be certified.

Public notice of this revised draft permit was provided in The Republican (Springfield, MA) and sent to the permittee, co-permittees and other interested parties by mail and electronic mail on August 17, 2018.

EPA is extending the public notice period (40 C.F.R. §124.10) at the request of the permittee to allow for additional time to review the revised draft permit.

INFORMATION ABOUT THE REVISED DRAFT PERMIT:

A fact sheet supplement (which includes the basis for the revised draft permit conditions; and significant factual, legal and policy questions considered in preparing this revised draft permit) may be obtained at no cost at https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits or by writing or calling EPA's contact person named below:

Meridith Finegan
US EPA
5 Post Office Square
Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1533

The administrative record containing all documents relating to this revised draft permit is on file and 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.

EXTENSION OF THE PUBLIC COMMENT PERIOD

All persons, including applicants, who believe any condition of this 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 15, 2018**, to the U.S. EPA, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-23912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider this revised 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 revised 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 AND APPEALS:

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. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

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MASSACHUSETTS WETLANDS AND WASTEWATER PROGRAMS
MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY – REGION 1

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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BOSTON, MASSACHUSETTS 02109-3912

JOINT **EXTENSION OF THE PUBLIC COMMENT PERIOD PERTAINING TO THE ISSUANCE OF A** 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 ORGINAL PUBLIC NOTICE PERIOD: November 15, 2017 – December 14, 2017

PUBLIC NOTICE EXTENDED TO: February 12, 2018

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-007-18

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
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PREPARATION OF THE DRAFT PERMIT:

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Public notice of this draft permit was provided in The Republican (Springfield, MA) and sent to the permittee, co-permittees and other interested parties by mail and electronic mail on November 15, 2017.

EPA is extending the public notice period (40 C.F.R. §124.10) at the request of the permittee to allow for additional time to review the draft permit.

INFORMATION ABOUT THE DRAFT PERMIT:

A fact sheet or a statement of basis (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) may be obtained at no cost at https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits or by writing or calling EPA's contact person named below:

Meridith Timony
US EPA
5 Post Office Square
Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1533

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EXTENSION OF THE PUBLIC COMMENT PERIOD

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **February 12, 2018**, to the U.S. EPA, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency 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 AND APPEALS:

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. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

LEALDON LANGLEY, DIRECTOR
MASSACHUSETTS WETLANDS
AND WASTEWATER
PROGRAMS
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

LYNNE HAMJIAN, ACTING DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1

Draft

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Clean Water Act, as amended, [33 U.S.C. §§1251 et seq. (the "CWA")], and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Springfield Water and Sewer Commission

are authorized to discharge from a facility located at:

Springfield Regional Waste Water Treatment Facility
Route 5 Bondi Island
Agawam, MA 01001

And

Combined Sewer Overflow (CSO) discharges at 24 locations

to receiving waters named: **Connecticut River Segment MA 34-05 (Waste Water Treatment Facility Outfall # 001 and CSO outfalls # 007, 008, 010, 011, 012, 013, 014, 015A, 015B,016, 018, 042 and 049), Chicopee River Segment MA36-25 (CSO outfalls # 034, 035, 036A, and 037) and Mill River Segment MA34-29 (CSO outfalls # 017, 019, 024, 025, 045, 046, and 048)**

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

The Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham are co-permittees for Part C, Unauthorized Discharges; 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., Alternate Power Source.

Operation and maintenance of the sewer system shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D. and Part E of this permit. The permittee and each co-permittee are severally liable under Part C, Part D and Part E for their own activities and required reporting with respect to the portions of the collection system that they own or operate. They are not liable for violations of Part C, Part D and Part E committed by others relative to the portions of the collection system owned and operated by others. Nor are they responsible for any reporting that is required of other permittees under Part C, Part D and Part E. The responsible Town departments are:

Town of Agawam **Department of Public Works** **1000 Suffield St** **Agawam, MA 01001**	**Town of East Longmeadow** **Department of Public Works** **60 Center Square, 2nd Floor** **East Longmeadow, MA 01028**	**Town of Longmeadow** **Department of Public Works** **31 Pondside Road** **Longmeadow, MA 01106**
Town of Ludlow **Department of Public Works** **198 Sportsmans Road** **Ludlow, MA 01056**	**Town of West Springfield** **Department of Public Works** **26 Central Street, Suite 17** **West Springfield, MA 01089**	**Town of Wilbraham** **Department of Public Works** **240 Springfield St.** **Wilbraham, MA 01095**

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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 will expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit signed on December 8, 2000.

This permit consists of 24 pages in Part I including effluent limitations and monitoring requirements, **Attachment A (Freshwater Acute Toxicity Test Procedure and Protocol, February 2011)**, **Attachment B (Freshwater Chronic Toxicity Test Procedure and Protocol, April 2013), Attachment C (Reassessment of Technically Based Industrial Discharge Limits), Attachment D (NPDES Permit Requirement for Industrial Pretreatment Annual Report),** and **Part II** (25 pages including NPDES Part II Standard Conditions).
Signed this day of

_____	_____
Lynne A. Hamjian, Acting Director	Lealdon Langley, Director
Office of Ecosystem Protection	Massachusetts Wetlands and Wastewater Programs
Environmental Protection Agency	Department of Environmental Protection
Boston, MA	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.

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PART I

A.1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge treated effluent from outfall serial number **001** to the Connecticut River. Such discharges shall be limited and monitored by the permittee as specified below. A bypass of secondary treatment is allowed when wet weather influent flow exceeds the wet weather capacity of the secondary treatment.

Effluent Characteristic		**Discharge Limitation**			**Monitoring Requirement** [*4]	
Parameter	**Units**	**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Effluent Flow [*2, *3]	MGD	67	—	Report	Continuous	Recorder
BOD_5 [*5]	mg/l lbs/day	30 16763	45 25145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
TSS [*5]	mg/l lbs/day	30 16,763	45 25,145	Report Report	1/Day 1/Day	24-Hour Composite[*6] 24-Hour Composite[*6]
pH Range[*1]	Standard Units	6.5 – 8.3 (See Permit Part I.A.1.b.)			1/Day	Grab
Escherichia coli [*1, *7] (April 1 - October 31)	cfu/100 ml	126	—	409	5/Week	Grab
Total Residual Chlorine [*1, *8]	mg/l	0.26	—	0.46	5/Week	Grab

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Part I.A.1. (Continued)

Effluent Characteristic	Units	Discharge Limitation			Monitoring Requirement[4]	
Parameter		**Average Monthly**	**Average Weekly**	**Maximum Daily**	**Measurement Frequency**	**Sample Type**
Ammonia Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report Report	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrogen, Total [*9]	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Nitrite+Nitrate, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Kjeldahl Nitrogen, Total	mg/l lbs/day	Report Report	— —	Report —	1/Week 1/Week	24-Hour Composite[*6] 24-Hour Composite[*6]
Whole Effluent Toxicity [*10, *11, *12, *13]	%	Acute LC_{50} $\geq$ 100%			4/Year	24-Hour Composite[*6]
Hardness[*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Ammonia Nitrogen as N [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Aluminum [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Cadmium [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Copper [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Nickel [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Lead [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]
Total Recoverable Zinc [*13]	mg/l	Report			4/Year	24-Hour Composite[*6]

Footnotes:

*1. Required for State Certification.

*2. Report annual average, monthly average, and the maximum daily flow. The limit is an annual average, which shall be reported as a rolling average. The value will be calculated as the arithmetic mean of the monthly average flow for the reporting month and the monthly average flows of the previous eleven months.

*3. The following information shall be reported and submitted as an attachment to the monthly DMRs for each day there was a bypass of secondary treatment: date and time of initiation, total influent flow at time of initiation, date and time of termination, total influent flow at time of termination, total duration of flow, and total volume of flow. A bypass of secondary treatment also is subject to the requirements of Part II.B.4.c. and Part II.D.1.e. of this permit.

Flows shall be measured using a meter.

The permittee shall not accept septage during any calendar day in which a bypass of secondary treatment is anticipated.

Monitoring Location	Date and Time of Initiation of Flow	Influent Flow at Time of Initiation (MGD)	Date and Time of Termination of Flow	Influent Flow at Time of Termination (MGD)	Total Duration of Flow (Hours)	Total Volume of Flow (MGD)
Secondary Bypass[a]						

[a.] Flows shall be measured using a meter.

*4. All required effluent samples shall be collected at a representative point following treatment and the comingling of secondary effluent with flows which bypass secondary treatment. Bacteria and TRC samples shall be collected after exiting the chlorine contact chamber.

A routine sampling program shall be developed in which samples are taken at the same location, same time and same days of the week each month. Occasional deviations from the routine sampling program are allowed, but the reason for the deviation shall be documented in correspondence appended to the applicable discharge monitoring report. Any changes to the routine sampling program must be reviewed and approved in writing by EPA and MassDEP.

All samples shall be tested using the analytical methods found in 40 CFR § 136, or alternative methods approved by EPA in accordance with the procedures in 40 CFR § 136.

*5. Sampling is required for influent and effluent.

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*6. A 24-hour composite sample will consist of at least twenty-four (24) grab samples taken during one consecutive 24 hour period, either collected at equal intervals and combined proportional to flow or continuously collected proportionally to flow.

*7. The monthly average limit for *Escherichia coli (E. coli)* is expressed as a geometric mean. *E. coli* monitoring shall be conducted concurrently with a total residual chlorine sample.

*8. Total residual chlorine monitoring is required whenever chlorine is added to the treatment process (i.e. TRC sampling is not required if chlorine is not added for disinfection or other purpose). The limitations are in effect year-round. For months when chlorine is not added to the treatment system a no data indicator (NODI) of C shall be reported on the monthly discharge monitoring report.

The minimum level (ML) for total residual chlorine is defined as 20 ug/l. This value is the minimum level for chlorine using EPA approved methods found in the most currently approved version of Standard Methods for the Examination of Water and Wastewater, Method 4500 CL-E and G. One of these methods must be used to determine total residual chlorine. For effluent limitations less than 20 ug/l, the compliance level will be the ML. Sampling results less than the detection limit shall be reported as "≤ [detection limit]" on the Discharge Monitoring Report.

Chlorination and dechlorination systems shall include an alarm system for indicating system interruptions or malfunctions. Any interruption or malfunction of the chlorine 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, and the estimated amount of time that the reduced levels of chlorine or dechlorination chemicals occurred.

*9. See Part 1.H. SPECIAL CONDITIONS for requirements regarding optimization and reporting for nitrogen removal.

*10. The permittee shall conduct acute toxicity tests four times per year. The permittee shall test the daphnid, *Ceriodaphnia dubia*, only. Toxicity test samples shall be collected during the same week each time 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 April 30th, July 31st, October 31st, and January 31st, respectively. The tests must be performed in accordance with test procedures and protocols specified in **Attachments A and B** of this permit.

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Test Dates during the month of:	**Submit Results By:**	**Test Species**	**Acute Limit** LC_{50}	**Chronic Limit C-NOEC**
March June September December	April 30 July 31 October 31 January 31	*Ceriodaphnia dubia* (Daphnid)	≥ 100%	Report

*11. The LC_{50} 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.

*12. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachments A and B, Section IV., DILUTION WATER,** in order to obtain permission to use an alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachments A and B**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") 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 the NPDES Program Instructions for the Discharge Monitoring Report Forms (DMRs) which is sent to all permittees with their annual set of DMRs and may also be found on the EPA, Region I web site at http://www.epa.gov/region01/enforcementandassistance/dmr.html. If this guidance is revoked, the permittee shall revert to obtaining individual approval as outlined in **Attachments A and B**. Any modification or revocation to this guidance shall be transmitted to the permittees as part of the annual DMR instruction package. However, at any time, the permittee may choose to contact EPA-New England directly using the approach outlined in **Attachments A and B**. If the permittee uses an alternative dilution water, the ambient water will still need to be tested.

*13. For each whole effluent toxicity test the permittee shall report on the appropriate discharge monitoring report, (DMR), the concentrations of the hardness, 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 **Attachments A and B**. Also the permittee should note that all chemical parameter results must still be reported in the appropriate toxicity report.

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Part I.A.1. (Continued)

a. The discharge shall not cause a violation of the water quality standards of the receiving waters.

b. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 Standard Units (S.U.) at any time.

c. The discharge shall not cause objectionable discoloration of the receiving waters.

d. The effluent shall not contain a visible oil sheen, foam, or floating solids at any time.

e. The permittee's treatment facility will maintain a minimum of 85 percent removal of both total suspended solids and biochemical oxygen demand during dry weather. Dry weather is defined as any calendar day on which there is less than 0.1 inch of rain and no snow melt. The percent removal shall be calculated as a monthly average using the influent and effluent BOD_5 and TSS values collected during dry weather days.

f. The permittee shall minimize the use of chlorine while maintaining adequate bacterial control.

g. The results of sampling for any parameter analyzed in accordance with EPA approved methods above its required frequency must also be reported.

h. If the average annual flow in any calendar year exceeds 80 percent of the facility's design flow [80% x 67 MGD= 54 MGD], the permittee shall submit a report to MassDEP by **April 30** of the following calendar year describing its plans for further flow increases and describing how it will maintain compliance with the effluent flow limit and all other effluent limitations and conditions.

2. All POTWs must provide adequate notice to the Director of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to section 301 or 306 of the Clean Water Act if it were directly discharging those pollutants; and

b. Any substantial change in the volume or character of pollutants being introduced into 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 will include information on:

(1) the quantity and quality of effluent introduced into the POTW; and
(2) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

3. Prohibitions Concerning Interference and Pass Through:

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

4. Toxics Control

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

b. Any toxic components of the effluent will 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.

5. Numerical Effluent Limitations for Toxicants

a. 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. COMBINED SEWER OVERFLOWS (CSOs)

1. Effluent Limitations

During wet weather, the permittee is authorized to discharge storm water/wastewater from the CSO outfalls listed below:

Outfall No.	**Location**	**Latitude Longitude**
To Connecticut River		
007	Rowland St.	42º 12’ 72º 62’
008	Washburn St. 4	42º 11’ 72º 62’
010	Clinton St.	42º 10’ 72º 60’
011	Liberty St.	42º 10’ 72º 59’
012	Worthington St.	42º 10’ 72º 59’
013	Bridge St.	42º 10’ 72º 59’
014	Elm St.	42º 10’ 72º 59’
015A	Union St.	42º 10’ 72º 59’
015B	Union St.	42º 10’ 72º 59’
016	York St.	42º 09’ 72º 59’
018	Longhill St.	42º 06’ 72º 58’
049	Springfield St.	42º 10’ 72º 62’
042	Bondi Island	
To Chicopee River		
034	Main St.	42º 16’ 72º 51’

035	Front & Oak Sts.	42º 16’ 72º 50’
036A	Pinevale & Water Sts.	42º 16’ 72º 50’
037	Cedar St. 4	42º 16’ 72º 50’
To Mill River		
017	Fort Pleasant (Blake Hill)	42º 09’ 72º 58’
019	Mill, Orange, & Locust Sts.	42º 09’ 72º 57’
024	Rifle & Central Sts.	42º 10’ 72º 56’
025	Allen & Oakland Sts.	42º 10’ 72º 56’
045	Fort Pleasant Ave.	42º 06’ 72º 58’
046	Belmont St.	42º 06’ 72º 58’
048	Allen & Rifle Sts.	42º 10’ 72º 56’

2. The effluent discharged from these CSOs is subject to the following limitations:

   a. The discharges shall receive treatment at a level providing Best Practicable Control Technology Currently Available (BPT), Best Conventional Pollutant Control Technology (BCT) to control and abate conventional pollutants and Best Available Technology Economically Achievable (BAT) to control and abate non-conventional and toxic pollutants. The EPA has made a Best Professional Judgment (BPJ) determination that BPT, BCT, and BAT for combined sewer overflow (CSO) control includes the implementation of Nine Minimum Controls (NMC) specified below. These Nine Minimum Controls and the Nine Minimum Controls Minimum Implementation Levels which are detailed further in Part I.B.3. are requirements of this permit.

      (1) Proper operation and regular maintenance programs for the sewer system and the combined sewer overflows;

      (2) Maximum use of the collection system for storage;

      (3) Review and modification of the pretreatment program to assure CSO impacts are minimized;

      (4) Maximization of flow to the POTW for treatment;

      (5) Prohibition of dry weather overflows from CSOs;

      (6) Control of solid and floatable materials in CSOs;

      (7) Pollution prevention programs that focus on contaminant reduction activities;

      (8) Public notification to ensure that the public receives adequate notification of CSO occurrences and impacts;

      (9) Monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

b. The discharges shall not cause or contribute to violations of federal or state Water Quality Standards.

3. Nine Minimum Controls Minimum Implementation Levels

a. The permittee must implement the nine minimum controls in accordance with the documentation provided to EPA and MassDEP or as subsequently modified to enhance the effectiveness of the controls. This implementation must include the following controls plus other controls the permittee can reasonably undertake as set forth in the documentation.

b. Each CSO structure/regulator, pumping station and/or tidegate shall be routinely inspected, at a minimum of once per month, to insure that they are in good working condition and adjusted to minimize combined sewer discharges (NMC # 1, 2 and 4). The following inspection results shall be recorded: the date and time of inspection, the general condition of the facility, and whether the facility is operating satisfactorily. If maintenance is necessary, the permittee shall record: the description of the necessary maintenance, the date the necessary maintenance was performed, and whether the observed problem was corrected. The permittee shall maintain all records of inspections for at least three years.

Annually, no later than April 30th, the permittee shall submit a certification to MassDEP and EPA which states that the previous calendar year's monthly inspections were conducted, results recorded, and records maintained.

MassDEP and EPA have the right to inspect any CSO related structure or outfall at any time without prior notification to the permittee.

c. Discharges to the combined system of septage, holding tank wastes, or other material which may cause a visible oil sheen or containing floatable material are prohibited during wet weather when CSO discharges may be active (NMC # 3, 6, and 7).

d. Dry weather overflows (DWOs) are prohibited (NMC # 5). All dry weather sanitary and/or industrial discharges from CSOs must be reported to EPA and MassDEP orally within 24 hours of the time the permittee becomes aware of the circumstances and a written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. See also Paragraph D.1.e of Part II of this permit.

e. The permittee shall quantify and record all discharges from combined sewer outfalls (NMC # 9). Quantification shall be through direct measurement. The following information must be recorded for each combined sewer outfall for each discharge event, as set forth in Part I.B.4.:

- Duration (hours) of discharge;
- Volume (gallons) of discharge;
- National Weather Service precipitation data from the nearest gage where precipitation

is available at daily (24-hour) intervals and the nearest gage where precipitation is available at one-hour intervals. Cumulative precipitation per discharge event shall be calculated.

The permittee shall maintain all records of discharges for at least six years after the effective date of this permit.

f. The permittee shall install and maintain identification signs for all combined sewer outfall structures (NMC # 8). The signs must be located at or near the combined sewer outfall structures and easily readable by the public from the land and water. These signs shall be a minimum of 12 x 18 inches in size, with white lettering against a green background, and shall contain the following information:

SPRINGFIELD WATER AND SEWER COMMISSION
WET WEATHER
SEWAGE DISCHARGE
OUTFALL (discharge serial number)

Where easements over property not owned by the permittee must be obtained to meet this requirement, the permittee shall identify the appropriate landowners and obtain the necessary easements, to the extent practicable.

The permittee, to the extent feasible, shall place additional signs in Spanish or add a universal wet weather sewage discharge symbol to existing signs.

g. Within 90 days of the effective date of the permit, the permittee shall submit to EPA and MassDEP a public notification plan (NMC #8). As part of this plan, notification shall be provided electronically to any interested party, and a posting made on the permittee's website, of a probable CSO activation within one 24 hours of the initiation of any CSO discharge(s). Subsequently, within 24 hours of the termination of any CSO discharges(s), the permittee shall provide the following information on their website and in a follow-up electronic communication to any interested party:

CSO number and location
Confirmation of CSO discharge
Total volume discharged from the CSO
Date, start time and stop time of the CSO discharge

This notification procedure and the public notification plan shall be implemented no later than 180 days following the effective date of the permit.

4. Nine Minimum Controls Reporting Requirement

Annually, no later than April 30th, the permittee shall submit a report summarizing activities during the previous calendar year relating to compliance with the nine minimum controls including the required information on the number of activations for each CSO as well as the volume of each discharge from each CSO.

5. Combined Sewer Outfalls

For each combined sewer outfall (CSO **outfalls #007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042, 049, 034, 035, 036A, 037 017, 019, 024, 025, 045, 046, and 048)**, the permittee must monitor and report the following information in each monthly DMR.

Parameters	**Reporting Requirements**	**Monitoring Requirements**	
	Total Monthly	**Measurement Frequency**	**Sample Type**
Total Flow	Report Gallons	Daily, when discharging	Continuous
Total Flow Duration (Duration of flow through CSO)	Report Hours	Daily, when discharging	Continuous
Number of CSO Discharge Events	Report Monthly Count	Daily, when discharging	Count

a. For Total Flow, measure the total flow discharged from each CSO outfall during the month. For Total Flow Duration provide the total duration (hours) of discharges for each CSO outfall during the month.

b. For those months when a CSO discharge does not occur, the permittee must still complete the monthly DMR with the appropriate no discharge (NODI) code for each outfall.

C. 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 outfalls listed in Part I.A.1.and Part I.B.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 Part II.D.1.e. (1) of the General Requirements of this permit (Twenty-four-hour reporting).

Notification of SSOs to MassDEP shall be made on its SSO Reporting Form (which includes MassDEP

Regional Office telephone numbers). The reporting form and instructions for its completion may be found online at http://www.mass.gov/eea/agencies/massdep/service/approvals/sanitary-sewer-overflow-bypass-backup-notification.html.

D. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

Operation and maintenance of the collection system owned and operated respectively by the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall be in compliance with the General Requirements of Part II and the terms and conditions of Part C, Part D and Part E of this permit. Each of the Towns of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield and Wilbraham shall only be responsible under Part II, Part C, Part D and Part E of this permit for only its own infrastructure, activities and required reporting with respect to the portions of the collection system that each owns or operates.

Operation and maintenance of that portion of the collection system and the entirety of the treatment system owned and operated by the Springfield Water and Sewer Commission shall be in compliance with the terms and conditions of Part C, Part D and Part E of this permit and the General Requirements of Part II. The Springfield Water and Sewer Commission shall only be responsible under Part C, Part D and Part E of this permit and the General Requirements of Part II for its own infrastructure, activities and required reporting with respect to the portion of the collection and treatment system that it owns or operates. No Permittee shall be responsible for violations of Part C, Part D and Part E of this permit and/or the General Requirements of Part II committed by another Permittee relative to the portions of the collection system owned and operated by such other Permittee. In the event of any conflict between the above provisions and any other term or provision of this Permit, the above provisions shall control. The permittee and each co-permittee are required to complete the following activities for the respective portions of the collection system which they operate:

1. Maintenance Staff

   The permittee and co-permittees shall each 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 will be described in the Collection System O & M Plan required pursuant to Section D.5. below.

2. Preventative Maintenance Program

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

3. Infiltration/Inflow:

The permittee and co-permittees shall each 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 D.5. below.

4. Collection System Mapping

Within 30 months of the effective date of this permit, the permittee and co-permittees shall each prepare a map of each 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, interconnections with collection systems owns by other entities, and the direction of flow.

5. Collection System Operation and Maintenance Plan

The permittee and co-permittees shall each develop and implement a Collection System Operation and Maintenance Plan.

a. **Within six (6) months of the effective date of the permit**, the permittee and co-permittees shall each submit to EPA and MassDEP

(1) A description of the collection system management goal, 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 all 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 completed, implemented, and submitted to EPA and MassDEP **within twenty-four (24) months from the effective date of the permit**. The Plan shall include:

(1) The required submittal from paragraph 5.a. above, update to reflect current information;

(2) A preventative 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;

(7) An educational public outreach program for all aspects of I/I control, particularly private inflow; and

(8) An Overflow Emergency Response Plan 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 and co-permittees shall each 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 April 30**. 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 its design flow [53.6 mgd] based on the annual average flow during the reporting year, 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.

E. ALTERNATE POWER SOURCE

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

F. SLUDGE CONDITIONS

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

2. If both state and federal requirements apply to the permittee's sludge use and/or disposal practices, the permittee shall comply with the more stringent of the applicable requirements.

3. The requirements and technical standards of 40 CFR §503 apply to the following sludge use or disposal practices.

   a. Land application - the use of sewage sludge to condition or fertilize the soil
   b. Surface disposal - the placement of sewage sludge in a sludge only landfill
   c. Sewage sludge incineration - the placement of sewage sludge in a sludge only incinerator.

4. The requirements of 40 CFR §503 do not apply to facilities which dispose of sludge in a municipal solid waste landfill. 40 CFR §503.4. These requirements also do not apply to facilities which do not use or dispose of sewage sludge during the life of the permit but rather treat the sludge (e.g. lagoons, reed beds), or are otherwise excluded under 40 CFR §503.6.

5. The 40 CFR. Part 503 requirements including the following elements:

- General requirements
- Pollutant limitations
- Operational Standards (pathogen reduction and vector attraction reduction requirements)
- Management practices
- Record keeping
- Monitoring
- Reporting

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

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

less than 290	1/ year
290 to less than1500	1 /quarter
1500 to less than 15000	6 /year
15000 +	1 /month

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

7. Under 40 CFR §503.9(r), the permittee is a "person who prepares sewage sludge" because it "is … the person who generates sewage sludge during the treatment of domestic sewage in a treatment works …." If the permittee contracts with *another* "person who prepares sewage sludge" under 40 CFR §503.9(r) – i.e., with "a person who derives a material from sewage sludge" – for use or disposal of the sludge, then compliance with Part 503 requirements is the responsibility of the contractor engaged for that purpose. If the permittee does not engage a "person who prepares sewage sludge," as defined in 40 CFR §503.9(r), for use or disposal, then the permittee remains responsible to ensure that the applicable requirements in Part 503 are met. 40 CFR §503.7. If the ultimate use or disposal method is land application, the permittee is responsible for providing the person receiving the sludge with notice and necessary information to comply with the requirements of 40 CFR Part 503 Subpart B.

8. The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§503.18 (land application), §503.28 (surface disposal), or §503.48 (incineration)) by **February 19th** (*see also* "EPA Region 1 - NPDES Permit Sludge Compliance Guidance"). The permittee shall submit an annual report containing the information specified in the 40 CFR Part 503 requirements (§ 503.18 (land application), § 503.28 (surface disposal), or § 503.48 (incineration)) by **February 19** (*see also* "EPA Region 1 - NPDES Permit Sludge

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

Compliance Guidance"). Reports shall be submitted electronically using EPA's Electronic Reporting tool ("NeT") (see "Monitoring and Reporting" section below). If the permittee engages a contractor or contractors for sludge preparation and ultimate use or disposal, the annual report need contain only the following information:

a. Name and address of contractor(s) responsible for sludge preparation, use or disposal

b. Quantity of sludge (in dry metric tons) from the POTW that is transferred to the sludge contractor(s), and the method(s) by which the contractor will prepare and use or dispose of the sewage sludge.

G. INDUSTRIAL USERS AND PRETREATMENT PROGRAM

1. 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. Within 120 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. In preparing this evaluation, the permittee shall complete and submit the attached form (see **Attachment C – Reassessment of Technically Based Industrial Discharge Limits**) with the technical evaluation to assist in determining whether existing local limits need to be revised. Justifications and conclusions should be based on actual plant data if available and should be included in the report. Should the evaluation reveal the need to revise local limits, the permittee shall 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).

2. 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.

3. The permittee shall provide the EPA and MassDEP with an annual report describing the permittee's pretreatment program activities for the twelve (12) month period ending 60 days prior to the due date in accordance with 403.12(i). The annual report shall be consistent with the format described in **Attachment D** (NPDES Permit Requirement for Industrial Pretreatment Annual Report) of this permit and shall be submitted no later than **March 31st** of each year.

4. 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(c).

5. 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.

6. 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 I's approval under 40 CFR 403.18. This submission is separate and distinct from any local limits analysis submission described in Part I.E.1.

H. SPECIAL CONDITIONS

1. Nitrogen

a. The Permittee shall continue to optimize the treatment facility operations relative to total nitrogen ("TN") removal through continued ammonia removal, maximization of solids retention time while maintaining compliance with BOD5 and TSS limits, and/or other operational changes designed to enhance the removal of nitrogen in order to maintain the annual average mass discharge of total nitrogen at less than the existing mass loading of 2,279 lbs/day.

b. The permittee shall submit an annual report to EPA and the MassDEP by **February 1st** of each year, that summarizes activities related to optimizing nitrogen removal efficiencies, documents the annual nitrogen discharge load from the facility, and tracks trends relative to the previous calendar year. If, in any year, the treatment facility discharges in excess of 2,279 lbs/day TN on an annual average basis, the annual report shall include a detailed explanation of the reasons why

TN discharges have increased, including any changes in influent flows/loads and any operational changes. The report shall also include all supporting data.

c. **Annually, no later than April 30th**, the permittee shall submit a report evaluating the impact of CSO abatement projects on nitrogen loads discharged from the WWTF. The report shall include a comparison of 2012-2016 conditions with conditions as of the date of the report with respect to the volume of sanitary sewage and of stormwater discharged through CSOs and through the WWTF. The report shall also include the expected change in volume and nitrogen load from the WWTF from sanitary sewage and stormwater flows in connection with CSO mitigation projects not included in the analysis of conditions as of the report date, but expected to be completed within the following five years.

I. MONITORING AND REPORTING

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

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

The permittee may consolidate reporting information which are on similar reporting schedules, in order to reduce or eliminate redundancy.

1. Submittal of DMRs Using NetDMR

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

2. Submittal of Reports as NetDMR Attachments

   Unless otherwise specified in this permit, the permittee shall electronically submit all reports to EPA as NetDMR attachments rather than as hard copies. Permittees shall continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP. (See Part I.E.5. for more information on state reporting.) Because the due dates for reports described in this permit may not coincide with the due date for submitting DMRs (which is no later than the 15th day of the month), a report submitted electronically as a NetDMR attachment shall be considered timely if it is electronically submitted to EPA using NetDMR.

3. Submittal of Pre-treatment Related Reports

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

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

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

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

4. Submittal of Biosolids/Sewage Sludge Reports

By **February 19** of each year, the permittee must electronically report their annual Biosolids/Sewage Sludge Report for the previous calendar year using EPA's NPDES Electronic Reporting Tool found on the internet at https://www.epa.gov/compliance/npdes-ereporting.

5. Submittal of Requests and Reports to EPA/OEP

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

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

These reports, information, and requests shall be submitted to EPA/OEP electronically at R1NPDESNotices.OEP@epa.gov or by hard copy mail to the following address:

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

6. Submittal of Reports in Hard Copy Form

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

A. Written notifications required under Part II
B. Notice of unauthorized discharges, including Sanitary Sewer Overflow (SSO) reporting
C. CSO Public Notification Plan
D. Collection System Operation and Maintenance Plan
E. Report on annual activities related to O&M Plan

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

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

7. State Reporting

Unless otherwise specified in this permit, duplicate signed copies of all reports, information, requests or notifications described in this permit, including the reports, information, requests or notifications described in Parts I.F.3., I.F.4. and I.F.5. also shall be submitted to the State at the following addresses:

MassDEP – Western Region
Bureau of Water Resources
436 Dwight Street, Suite 402
Springfield, MA 01103

Copies of toxicity tests and nitrogen optimization reports only shall be submitted to:

Massachusetts Department of Environmental Protection
Watershed Planning Program
8 New Bond Street
Worcester, MA 01606

6. Verbal Reports and Verbal Notifications

Any verbal reports or verbal notifications, if required in Parts I and/or II of this permit, shall be made to both EPA and to MassDEP. This includes verbal reports and notifications which require reporting

within 24 hours. (As examples, see Part II.B.4.c. (2), Part II.B.5.c. (3), and Part II.D.1.e.) Verbal reports and verbal notifications shall be made:

EPA's Office of Environmental Stewardship: 617-918-1510

and to

MassDEP's Emergency Response: 888-304-1133.

J. STATE PERMIT CONDITIONS

1. 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 CFR 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 will have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit will be effective only with respect to the Agency taking such action, and will 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 will remain in full force and effect under Federal law as an 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 will remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.

Attachment A

USEPA Region I Freshwater Acute Toxicity Test Procedure and Protocol

USEPA REGION 1 FRESHWATER ACUTE TOXICITY TEST PROCEDURE AND PROTOCOL

I. GENERAL REQUIREMENTS

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

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

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

II. METHODS

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

http://water.epa.gov/scitech/methods/cwa/wet/disk2_index.cfm

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

III. SAMPLE COLLECTION

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

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

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

IV. DILUTION WATER

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

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

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

and

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

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

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

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

V. TEST CONDITIONS

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

EPA NEW ENGLAND EFFLUENT TOXICITY TEST CONDITIONS FOR THE DAPHNID, CERIODAPHNIA DUBIA 48 HOUR ACUTE TESTS[1]

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

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

Footnotes:

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

EPA NEW ENGLAND TEST CONDITIONS FOR THE FATHEAD MINNOW (PIMEPHALES PROMELAS) 48 HOUR ACUTE TEST[1]

1.	Test Type	Static, non-renewal
2.	Temperature (°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	≥ 0.5, must bracket the permitted RWC

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

Footnotes:

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

VI. CHEMICAL ANALYSIS

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

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

Notes:

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

VII. TOXICITY TEST DATA ANALYSIS

LC50 Median Lethal Concentration (Determined at 48 Hours)

Methods of Estimation:

- Probit Method
- Spearman-Karber
- Trimmed Spearman-Karber
- Graphical

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

No Observed Acute Effect Level (NOAEL)

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

VIII. TOXICITY TEST REPORTING

A report of the results will include the following:

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

Attachment B

Freshwater Chronic Toxicity Test Procedure and Protocol

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 (Ceriodaphnia dubia) Survival and Reproduction Test.**
- **Fathead Minnow (Pimephales promelas) 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: Short Term Methods For Estimating The Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition. October 2002. United States Environmental Protection Agency. Office of Water, Washington, D.C., EPA 821-R-02-013. The methods are available on-line at http://www.epa.gov/waterscience/WET/ . 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 on-site 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° 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 http://www.epa.gov/region1/enforcementandassistance/dmr.html 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.

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 slightly 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 well outside the established **upper** control limits i.e. ≥3 standard deviations for IC25 values and ≥ two concentration intervals for NOECs, and even though the primary test meets TAC, the primary test will be considered unacceptable and must be repeated.

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

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]	x	x	0.5
Total Residual Chlorine (TRC)[2, 3, 4]	x		0.02
Alkalinity[4]	x	x	2.0
pH[4]	x	x	--
Specific Conductance[4]	x	x	--
Total Solids[6]	x		--
Total Dissolved Solids[6]	x		--
Ammonia[4]	x	x	0.1
Total Organic Carbon[6]	x	x	0.5
Total Metals[5]			
Cd	x	x	0.0005
Pb	x	x	0.0005
Cu	x	x	0.003
Zn	x	x	0.005
Ni	x	x	0.005
Al	x	x	0.02
Other as permit requires			

Notes:

1. Hardness may be determined by:

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 2340B (hardness by calculation)
  -Method 2340C (titration)

2. Total Residual Chlorine may be performed using any of the following methods provided the required minimum limit (ML) is met.

- APHA Standard Methods for the Examination of Water and Wastewater , 21st Edition
  -Method 4500-CL E Low Level Amperometric Titration
  -Method 4500-CL G DPD Colorimetric Method
- USEPA 1983. Manual of Methods Analysis of Water and Wastes
  -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 and 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 http://water.epa.gov/scitech/methods/cwa/ . 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 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
  - 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
  - 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 concentration-response relationship and test sensitivity review per species per endpoint

Attachment C

Reassessment of Technically Based Industrial Pretreatment Discharge Limits

EPA - New England

Reassessment of Technically Based Industrial Discharge Limits

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

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

Please read direction below before filling out form.

ITEM I.

* In Column (1), list what your POTW's influent flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present influent flow rate. Your current flow rate should be calculated using the POTW's average daily flow rate from the previous 12 months.

* In Column (1) list what your POTW's SIU flow rate was when your existing TBLLs were calculated. In Column (2), list your POTW's present SIU flow rate.

* In Column (1), list what dilution ratio and/or 7Q10 value was used in your old/expired NPDES permit. In Column (2), list what dilution ration and/or 7Q10 value is presently being used in your new/reissued NPDES permit.

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

* In Column (1), list the safety factor, if any, that was used when your existing TBLLs were calculated.

* In Column (1), note how your bio-solids were managed when your existing TBLLs were calculated. In Column (2), note how your POTW is presently disposing of its biosolids and how your POTW will be disposing of its biosolids in the future.

ITEM II.

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

ITEM III.

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

ITEM IV.

* Since your existing TBLLs were calculated, identify the following in detail:

  (1) if your POTW has experienced any upsets, inhibition, interference or pass-through as a result of an industrial discharge.

  (2) if your POTW is presently violating any of its current NPDES permit limitations - include toxicity.

ITEM V.

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

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

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

Item VI.

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

(Item VI. continued)

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

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

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

ITEM VII.

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

ITEM VIII.

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

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

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

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

REASSESSMENT OF TECHNICALLY BASED LOCAL LIMITS (TBLLs)

POTW Name & Address : _____

NPDES PERMIT # :

_____

Date EPA approved current TBLLs : _____

Date EPA approved current Sewer Use Ordinance :

_____

ITEM I.

In Column (1) list the conditions that existed when your current TBLLs were calculated. In Column (2), list current conditions or expected conditions at your POTW.

	Column (1) EXISTING TBLLs	Column (2) PRESENT CONDITIONS
POTW Flow (MGD)		
Dilution Ratio or 7Q10 (from NPDES Permit)		
SIU Flow (MGD)		
Safety Factor		N/A
Biosolids Disposal Method(s)		

ITEM II.

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

ITEM III.

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

ITEM IV.

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

_____

_____

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

If yes, explain.

_____

_____

ITEM V.

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

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

ITEM VI.

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

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

*Hardness Dependent (mg/l - CaCO3)

ITEM VII.

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

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

ITEM VIII.

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

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

Attachment D

NPDES Permit Requirement for Industrial Pretreatment Annual Report

NPDES PERMIT REQUIREMENT
FOR
INDUSTRIAL PRETREATMENT ANNUAL REPORT

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

1. An updated list of all industrial users by category, as set forth in 40 C.F.R. 403.8(f)(2)(i), indicating compliance or noncompliance with the following:
   - baseline monitoring reporting requirements for newly promulgated industries
   - compliance status reporting requirements for newly promulgated industries
   - periodic (semi-annual) monitoring reporting requirements,
   - categorical standards, and
   - local limits;

2. A summary of compliance and enforcement activities during the preceding year, including the number of:
   - significant industrial users inspected by POTW (include inspection dates for each industrial user),
   - significant industrial users sampled by POTW (include sampling dates for each industrial user),
   - compliance schedules issued (include list of subject users),
   - written notices of violations issued (include list of subject users),
   - administrative orders issued (include list of subject users),
   - criminal or civil suits filed (include list of subject users) and,
   - penalties obtained (include list of subject users and penalty amounts);

3. A list of significantly violating industries required to be published in a local newspaper in accordance with 40 C.F.R. 403.8(f)(2)(vii);

4. A narrative description of program effectiveness including present and proposed changes to the program, such as funding, staffing, ordinances, regulations, rules and/or statutory authority;

5. A summary of all pollutant analytical results for influent, effluent, sludge and any toxicity or bioassay data from the wastewater treatment facility. The summary shall include a comparison of influent sampling results versus threshold inhibitory concentrations for the Wastewater Treatment System and effluent sampling results versus water quality standards. Such a comparison shall be based on the sampling program described in the paragraph below or any similar sampling program described in this Permit.

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

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

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

6. A detailed description of all interference and pass-through that occurred during the past year;

7. A thorough description of all investigations into interference and pass-through during the past year;

8. A description of monitoring, sewer inspections and evaluations which were done during the past year to detect interference and pass-through, specifying parameters and frequencies;

9. A description of actions being taken to reduce the incidence of significant violations by significant industrial users; and,

10. The date of the latest adoption of local limits and an indication as to whether or not the permittee is under a State or Federal compliance schedule that includes steps to be taken to revise local limits.

NPDES PART II STANDARD CONDITIONS
(January, 2007)

TABLE OF CONTENTS

PART II. A. GENERAL REQUIREMENTS

1. Duty to Comply

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

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

b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed $25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than $2,500 nor more than $25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

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

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

2. Permit Actions

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

3. Duty to Provide Information

The permittee shall furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

4. Reopener Clause

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

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

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

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from responsibilities, liabilities or penalties to which the permittee is or may be subject under Section 311 of the CWA, or Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA).

6. Property Rights

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

7. Confidentiality of Information

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

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

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

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

8. Duty to Reapply

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

9. State Authorities

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

10. Other Laws

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

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

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

b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

c. Notice

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

d. Prohibition of bypass

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

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

5. Upset

a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during

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

c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

(1) An upset occurred and that the permittee can identify the cause(s) of the upset;
(2) The permitted facility was at the time being properly operated;
(3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
(4) The permittee complied with any remedial measures required under B.3. above.

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

PART II. C. MONITORING REQUIREMENTS

1. Monitoring and Records

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

b. Except for records for monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.

c. Records of monitoring information shall include:

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

d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.

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

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

2. Inspection and Entry

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

a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

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

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

d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

PART II. D. REPORTING REQUIREMENTS

1. Reporting Requirements

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

(1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or
(2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
(3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.

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

c. Transfers. This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and

incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

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

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

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

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

e. Twenty-four hour reporting.

(1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.

A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

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

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

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

f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

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

h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.

2. Signatory Requirement

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

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

3. Availability of Reports.

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

PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

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

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

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

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

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

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

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

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

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

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

Construction Activities - The following definitions apply to construction activities:

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

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

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

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

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

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

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

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

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

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

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

Discharge of a pollutant means:

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

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

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

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

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

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

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

EPA means the United States "Environmental Protection Agency".

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

NPDES means "National Pollutant Discharge Elimination System".

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

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

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

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

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

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

(a) Sewage from vessels; or

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Waters of the United States means:

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

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

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

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

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

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

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

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

(f) The territorial sea; and

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Feed crops are crops produced primarily for consumption by animals.

Fiber crops are crops such as flax and cotton.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Range land is open land with indigenous vegetation.

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

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

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

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

Sewage sludge is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to:, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in treatment works.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3. Commonly Used Abbreviations

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

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

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

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

FACT SHEET

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 NUMBER: **MA0101613** [This draft permit is also integrating existing permit MA0103331[1]]

PUBLIC NOTICE START AND END DATES: **November 15, 2017 – December 14, 2017**

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

The Massachusetts municipalities of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham are co-permittees for specific activities required by the draft permit, as described in Section IX. of this Fact Sheet and as set forth in Sections I.C. and I.D. of the draft permit. The responsible municipal departments are:

Town of Agawam **Department of Public Works** **1000 Suffield St** **Agawam, MA 01001**	**Town of East Longmeadow** **Department of Public Works** **60 Center Square, 2nd Floor** **East Longmeadow, MA 01028**	**Town of Longmeadow** **Department of Public Works** **31 Pondside Road** **Longmeadow, MA 01106**
Town of Ludlow **Department of Public Works** **198 Sportsmans Road** **Ludlow, MA 01056**	**Town of West Springfield** **Department of Public Works** **26 Central Street, Suite 17** **West Springfield, MA 01089**	**Town of Wilbraham** **Department of Public Works** **240 Springfield St.** **Wilbraham, MA 01095**

[1] See Section X of this Fact Sheet

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility ("SRWWTF" or the "Facility" or "Bondi Island")
Route 5 Bondi Island
Agawam, MA 01001

And

24 Combined Sewer Overflows located in Springfield and Agawam, MA

RECEIVING WATER(S):

Connecticut River
Chicopee River
Mill River

RECEIVING WATER CLASSIFICATION(S):
All receiving waters are **Class B – Warm Water Fishery**

Contents

Attachments

I. PROPOSED ACTION, TYPE OF FACILITY, AND DISCHARGE LOCATION

The Springfield Water and Sewer Commission ("SWSC" or the "Commission") has applied to the U.S. Environmental Protection Agency ("EPA") for reissuance of its National Pollutant Discharge Elimination System ("NPDES") permit to discharge into the designated receiving waters. The existing permit was issued on December 8, 2000 and expired in February 2006. A complete and timely application for the permit re-issuance was submitted to EPA, and the existing permit was administratively continued pursuant to 40 C.F.R. § 122.6. Upon becoming effective, the draft permit and the authorization to discharge shall supersede the existing permit.

The existing permit authorizes the discharge from outfall 001 (formerly designated at outfall 041), which discharges treated municipal and industrial wastewater and stormwater from the SWSC's publicly owned treatment works ("POTW") to the Connecticut River. The SWSC also has been issued NPDES Permit No. MA0103331, which authorizes discharges of combined sanitary wastewater and stormwater from the Commission's 25 Combined Sewer Overflows ("CSOs") to the Connecticut, Chicopee and Mill Rivers. EPA's practice is to include CSO requirements in permits that authorize discharges from POTWs when the permittee owns and operates both a POTW and CSOs; therefore EPA is proposing to integrate the Commission's two NPDES permits into a single permit and terminate permit MA0103331. This is reflected in the conditions of the draft permit (see discussion of the separate permit in Section X of this Fact Sheet.). The locations of outfall 001 and the CSO outfalls are provided in **Attachments A** and **D**, respectively.

Additionally, EPA is adding six co-permittees to the draft permit. The towns of Agawam, Longmeadow, East Longmeadow, Ludlow, West Springfield and Wilbraham, Massachusetts own and operate sanitary wastewater collection systems that discharge flows to the SRWWTF for treatment[2.] These municipalities are co-permittees for certain activities pertaining to proper operation and maintenance of their respective collection systems (see Part I.C. and I.D of the draft permit). Adding them to the draft permit ensures that they comply with requirements to operate and maintain the collection systems so as to avoid discharges of sewage from the collection systems. These co-permittees did not apply for permit coverage; with letters sent November 3, 2015, EPA waived application requirements for the six co-permittees.

II. DESCRIPTION OF DISCHARGE

A quantitative description of the effluent discharged from outfall 001, based on recent monitoring data, is shown in **Attachment C**. Annual CSO discharge volumes from 2011-2016 are provided in **Attachment D.**

[2]Two other municipalities, the Town of Chicopee and the City of Springfield, contribute flows to the SWSC's collection system. Less than 1,000 residents in the Town of Chicopee are served by sewers discharging to the Commission's system; the remainder of the Town is served by a Town collection system and treatment plant. Because of the relatively small amount of sewers contributing flows, the Town of Chicopee was not added as a co-permittee. The City of Springfield also contributes sewage; however, all sanitary sewers in the City are owned and maintained by the Commission, not by the City. Therefore, the City is not a co-permittee.

III. RECEIVING WATER DESCRIPTION

The segments of the Connecticut River (segment MA34-05) and Mill River (segment MA34-29) at the points of discharge are located within the Connecticut River Basin. The segment of the Chicopee River into which several of the SWSC's CSO outfalls discharge (segment MA36-24) is located within the Chicopee River Basin. The Massachusetts Surface Water Quality Standards ("MA SWQS"), found at 314 Code of Massachusetts Regulations ("CMR") 4.06 Tables 6 and 8, classifies these river segments as Class B. The Connecticut and Chicopee Rivers are also classified as Warm Water Fisheries. The MA SWQS designate Class B Waters as having the following uses: (1) a habitat for fish, other aquatic life, and wildlife; (2) primary and secondary contact recreation; (3) a source of public water supply (i.e., where designated and with appropriate treatment); (4) suitable for irrigation and other agricultural uses and for compatible industrial cooling and process uses; and (5) shall have consistently good aesthetic value (314 CMR 4.05(3)(b)).

A warm water fishery is defined in the MA SWQS (314 CMR 4.02) as waters in which the maximum mean monthly temperature generally exceeds 20°C during the summer months and are not capable of supporting a year-round population of cold-water stenothermal aquatic life.

The segments of the receiving waters into which the discharges occur are identified in the MA SWQS with a CSO qualifier, indicating that these waters "are identified as impacted by the discharge of combined sewer overflows; however, a long term control plan has not been approved or fully implemented for the CSO discharges" 314 CMR 4.06(1)(d)(10).

Sections 303(d) and 305(b) of the Clean Water Act ("CWA") require that states complete a water quality inventory and develop a list of impaired waters. Specifically, section 303(d) requires states to identify those waterbodies that are not expected to meet water quality standards following the implementation of technology-based controls and, as such, require the development of a total maximum daily load ("TMDL"). In Massachusetts, these two evaluations have been combined into an Integrated List of Waters. The integrated list format provides the status of all assessed waters in a single, multi-part list.

The Final *Massachusetts Year 2014 Integrated List of Waters (MassDEP 2015)*(the "*2014 Integrated List*"), lists the segment of the Connecticut River into which outfall 001 and combined sewer overflow outfalls # 007, 008, 010, 011, 012, 013, 014, 015A, 015B, 016, 018, 042 and 049 discharge (segment MA 34-05) as a Category 5 water (waters requiring a TMDL for pollutants identified as causing impairment(s)). The pollutants listed as causing the impairment(s) and requiring a TMDL are *E. coli*, total suspended solids, and PCBs in fish tissue (*2014 Integrated List*). The segment of the Mill River into which combined sewer overflow outfalls #017, 019, 024, 025, 045, 046 and 048 discharge (segment 34-29) is listed as a category 5 water due to impairment(s) caused by *Escherichia coli (E. coli*). The segment of the Chicopee River into which combined sewer outfalls #034, 035, 036A and 037 discharge (segment 36-24) is listed as a Category 5 water due to impairment(s) caused by fecal coliform.

IV. LIMITATIONS AND CONDITIONS

The effluent limitations of the draft permit, the monitoring requirements, and any implementation schedule (if required) may be found in the draft permit.

V. PERMIT BASIS: STATUTORY AND REGULATORY AUTHORITY

Congress enacted the Clean Water Act ("CWA") "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." CWA § 101(a). To achieve this objective, the CWA makes it unlawful for any person to discharge any pollutant into the waters of the United States from any point source, except as authorized by specified permitting sections of the CWA, one of which is Section 402. See CWA §§ 301(a), 402(a).

Section 402(a) established one of the CWA's principal permitting programs, the National Pollutant Elimination System ("NPDES"). Under this section of the CWA, EPA may "issue a permit for the discharge of any pollutant, or combination of pollutants" in accordance with certain conditions. See CWA § 402(a). NPDES permits generally contain discharge limitations and establish related monitoring and reporting requirements. See CWA § 402(a)(1)-(2).

Section 301 of the CWA provides for two types of effluent limitations to be included in NPDES permits: "technology-based" limitations and "water quality-based" limitations. See §§ 301, 304(b); 40 C.F.R. §§ 122, 125, 131. Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 402 and 301(b) of the Clean Water Act. For publicly owned treatment works ("POTWs"), technology-based requirements are effluent limits based on secondary treatment as defined in 40 C.F.R. 133.102.

EPA regulations require NPDES permits to contain effluent limits more stringent than technology-based limits where necessary to maintain or achieve federal or state water quality standards. Under Section 301(b)(1)(C) of the CWA, discharges are subject to effluent limitations based on water quality standards. The MA SWQS, 314 CMR 4.00, establish requirements for the regulation and control of toxic constituents and also require that EPA criteria, established pursuant to Section 304 (a) of the CWA, shall be used unless a site-specific criterion is established. Massachusetts regulations similarly require that its permits contain limitations which are adequate to assure the attainment and maintenance of the water quality standards of the receiving waters as assigned in the MA SWQS. See 314 CMR 3.11(3). EPA is required to obtain certification from the state in which the discharge is located that all water quality standards or other applicable requirements of state law, in accordance with Section 301(b)(1)(C) of the CWA, are satisfied, unless the state certification is deemed to be waived.

In addition, a permit may not be renewed, reissued or modified with less stringent limitations or conditions than those contained in the previous permit unless in compliance with the anti-backsliding requirements of CWA Section 402(o) and 40 C.F.R. §122.44(l). States are also required to develop antidegradation policies pursuant to 40 C.F.R. § 131.12. No lowering of water quality is allowed, except in accordance with the antidegradation policy.

VI. FACILITY INFORMATION

The Springfield Water and Sewer Commission's Bondi Island treatment plant processes wastewater from the following municipalities, with the population served for each one (based on information submitted in 2005)

Springfield	156983
Agawam	29000
West Springfield	25935
Ludlow	19596
Longmeadow	15409
East Longmeadow	14504
Wilbraham	13092
Chicopee	566

The wastewater collection system consists of both sanitary sewers, which transport domestic, industrial, and commercial wastewater; and combined sewers, which transport domestic, industrial, and commercial wastewater plus stormwater. Under normal flow conditions, wastewater is conveyed to the Facility through interceptor sewers. During wet weather events in which the combined flow exceeds the hydraulic capacity of the interceptor sewer and/or the wastewater treatment plant, discharges of untreated combined sanitary wastewater and stormwater occur from the CSOs listed in **Attachment D** to the Connecticut, Mill and Chicopee Rivers.

The SRWWTF is a publicly owned treatment works ("POTW") with an annual average design of flow 67 million gallons per day ("MGD"). The Facility has the capacity to provide primary treatment for flows up to 180 MGD and secondary treatment for flows up to 134 MGD.

The treatment process train includes mechanical screens, primary clarification, aerated biological treatment, secondary clarification, chlorine disinfection, dechlorination, sludge thickening and sludge dewatering. Treated effluent is discharged through outfall 001 to the Connecticut River. During wet weather events in which the secondary treatment capacity of the facility is exceeded, flows in excess of 134 MGD bypass secondary treatment (receiving only primary treatment, chlorination, and dechlorination) in order to prevent damage to the operation of the secondary treatment system. At this time, there no feasible alternatives to this bypass have been identified without the discharge of additional untreated sewage in system's CSOs. Alternatives continue to be evaluated as part of long term CSO abatement planning. In addition, flows in excess of 180 MGD are discharged from CSO Outfall 042 (receiving no treatment). Currently, continuous sampling of the effluent is carried out on the secondarily-treated flow, at a point before the secondary bypass flow rejoins. Grab samples for bacteria and Total Residual Chlorine are collected from a point after dechlorination and include flow that bypassed secondary treatment. The draft permit requires that all samples be collected after comingling of the secondary effluent with flow that bypassed secondary treatment. A flow process diagram of the facility is provided in **Attachment B**. The facility is operated by SUEZ Water Environmental Services, Inc. under a twenty-year Service Agreement begun with the Commission in 2000.

VII. DERIVATION OF EFFLUENT LIMITS UNDER THE FEDERAL CWA AND THE COMMONWEALTH OF MASSACHUSETTS WATER QUALITY STANDARDS

EFFLUENT FLOW

The draft permit maintains the 12 month rolling average effluent flow limitation of 67 MGD that is in the current permit. This limit is based upon the annual average design flow of the facility, as reported in Form 2A, Part A, Section a.6. of the permit application. The draft permit requires continuous flow measurement, and also requires reporting of the average monthly and maximum daily flows. Effluent flow data that was collected and submitted by the permittee from 2011-2015 is shown in **Attachment C**.

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

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

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

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

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

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

Dilution Factor

Water quality-based limitations are established with the use of a calculated available dilution factor. 314 CMR 4.03(3)(a) of the MA SWQS requires that effluent dilution be calculated based on the receiving water 7Q10. The 7Q10 is the lowest observed mean river flow for 7 consecutive days, recorded over a 10-year recurrence interval. Additionally, the plant's design flow is used to calculate available effluent dilution.

The 7Q10 flow data used to calculate the proposed effluent limitations in the draft permit is based on measurements of flow in the Connecticut River above the Springfield WWTP, which was collected by the United States Geological Survey (USGS) gaging station 01170500 on the Connecticut River at Montague City, MA (period of record 1985-2015), as well as estimates of the drainage basin area above the outfall. The drainage basin area at the outfall (9,088 mi^2) was estimated by adding the drainage area of the Connecticut River, 1.1 mile upstream from the Westfield River (9,055 mi^2), to the drainage area of the Mill River, just upstream of the outfall (33 mi^2)[3]

The 7Q10 flow at the USGS gaging station 01170500 was divided by the drainage area in the river at the location of the station (7,860 mi^2) to derive a flow factor. This flow factor was then multiplied by the drainage area of the Connecticut River where outfall 001 is located to calculate a 7Q10 value of 2,435 cubic feet per second ("cfs") just above outfall 001. See Table 1.

[3] *Gazetteer of Hydrologic Characteristics of Streams in Massachusetts; Connecticut River Basin*. U.S. Geological Survey, Water-Resources Investigations Report 84-4282. 1984.

Table 1: Calculation of 7Q10 at Outfall 001 (formerly 041)

	USGS Gage 01170500	Just Above Outfall 001
Drainage Area (mi^2)	**7,860**	**9,088**
7Q10 (cfs)	**2,103**	**2,435**
Flow Factor (cfs/mi^2)	**0.268**	**NA**

The available dilution (dilution factor) at the point of discharge was then derived from the design flow of the facility (67 MGD) and the estimated 7Q10 at the point of discharge (2,435 cfs) as follows:

Dilution = (design flow (cfs) + $7Q10_{0utfall\ 041}$ (cfs)) / design flow of facility

Design Flow in cfs = (67 MGD * 1.55 cfs/MGD) = 103.8 cfs

Dilution Factor = (103.8 cfs + 2,435 cfs) / 103.8 cfs = 24

CONVENTIONAL POLLUTANTS

Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS)
Effluent concentration limits for biochemical oxygen demand (BOD_5) and total suspended solids (TSS) are technology-based limits based on the minimum level of effluent quality attainable by secondary treatment as set forth in 40 C.F.R. §133.102(a) and (b), respectively.

The requirements of 40 C.F.R. §133.102(a) and (b), which provide for effluent limits for BOD_5 and TSS of 30 mg/l (average monthly) and 45 mg/l (average weekly), are reflected in the draft permit. The draft permit also includes mass-based limits for BOD_5 and TSS, in accordance with the requirements of 40 C.F.R. §122.45(f). Mass loads for BOD_5 and TSS are calculated from concentration limits and the design flow, as shown below:

L = C x Q x 8.34

Where:

L = Mass loading (lbs/day)
C = Effluent concentration (limit) (mg/l)
Q = Design flow of the facility (MGD)
8.34 = Factor to convert effluent concentration, in mg/l, and design flow, in MGD, to lbs/day.

Average Monthly Mass Limit = 30 mg/l x 67 MGD X 8.34 = 16,763 lbs/day

Average Weekly Mass Limit = 45 mg/l x 67 MGD X 8.34 = 25,145 lbs/day

These concentration and mass-based limits are unchanged from the existing permit.

Percent removal requirements are also included in the secondary treatment standards of 40 C.F.R. §133.102(a)(3) and (b)(3), requiring that the average monthly percent removal for BOD_5 and TSS be not less than 85%. However, combined sewer systems may receive case-by-case consideration under 40 C.F.R. §133.103(a), which states:

> *Treatment works subject to this part may not be capable of meeting the percentage removal requirements . . . during wet weather where the treatment works receive flows from combined sewers (i.e. sewers which are designed to transport both storm water and sanitary sewage). For such treatment works, the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined, and if so, what the level should be.*

Additionally, 40 C.F.R. §133.103(e) states

> *The Regional Administrator or, if appropriate, the State Director is authorized to substitute either a lower percent removal requirement or a mass loading limit for the percent removal requirements set forth in §§ 133.102(a)(3), 133.102(a)(4)(iii), 133.102(b)(3), 133.105(a)(3), 133.105(b)(3) and 133.105(e)(1)(iii) provided that the permittee satisfactorily demonstrates that: (1) The treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits, but the percent removal requirements cannot be met due to less concentrated influent wastewater; (2) to meet the percent removal requirements, the treatment works would have to achieve significantly more stringent effluent concentrations than would otherwise be required by the concentration-based standards; and (3) the less concentrated influent wastewater does not result from either excessive infiltration or clear water industrial discharges during dry weather periods.*

The existing permit suspended the 85% removal requirement because the large area of combined system makes meeting the requirement difficult in wet weather.

EPA's general approach has been to suspend the percent removal requirements in wet weather only for CSO areas. There is no documentation that the percent removal requirements cannot be met in dry weather by the treatment works (in fact, using a monthly average that includes both wet and dry weather, the treatment works have met the percent removal requirement every month in the last five years). Therefore, the draft permit suspends the 85% removal requirement during wet weather, but implements the requirement during dry weather.

The Connecticut River is listed as impaired for TSS. The state water quality standard for suspended solids, at 314 CMR 4.05(3)(b)5, states

> *These waters shall be free from floating, suspended and settleable solids in concentrations and combinations that would impair any use assigned to this Class, that would cause*

aesthetically objectionable conditions, or that would impair the benthic biota or degrade the chemical composition of the bottom.

In addition to the numeric technology-based limitations in the draft permit for TSS, EPA has included narrative water quality limits and conditions in Parts I.A.1.a., c., and d. of the draft permit to limit solids discharged from this facility and to ensure attainment of the water quality standard established at 314 CMR 4.05(3)(b)5.

BOD_5 and TSS influent and discharge data from 2011-2015 is shown in **Attachment C**. There have been no reported exceedances for BOD_5 or TSS limits at the facility in that time.

pH

The technology-based secondary treatment requirements for pH are a minimum of 6.0 and maximum of 9.0 SU (40 C.F.R. §133.102(c)). The MA SWQS establishes that for class B waters, pH "[s]hall be in the range of 6.5 through 8.3 standard units and not more than 0.5 units outside of the natural background range." (314 CMR 4.05(4)(b)3).

The pH limits in the existing permit, which are a minimum of 6.5 standard units and a maximum of 8.3 standard units, are maintained in the draft permit, and are a condition of state certification.

Discharge data for pH for 2011-2015 is shown in **Attachment C**. There have been no reported exceedances for pH limits at the facility in that time.

Bacteria

Limitations for fecal coliform bacteria in the existing permit are based upon state water quality standards to protect seasonal recreational uses that were in effect at the time that permit was issued.

The bacteria limits are modified in the draft permit to reflect the new seasonal *Escherichia coli (E. coli*) recreational criteria in the revisions to the MA SWQS, 314 CMR 4.05(3)(b), approved by EPA in 2007. The monthly average limitation in the draft permit is 126 colony forming units ("cfu") per 100 ml, and shall be expressed as a monthly geometric mean. The daily maximum limitation in the draft permit is 409 cfu/100 ml (this is the 90% distribution of the geometric mean of 126 cfu/100ml).

The February 23, 1990, *Massachusetts Water Quality Standards Implementation Policy For The Control Of Toxic Pollutants In Surface Waters* requires disinfection "seasonally (April 1 through October 15) in segments designated for primary contact recreation". The *E. coli* limits in the draft permit are in effect from April 1 through October 31, which is the same seasonality as the bacteria limits in the existing permit and protect recreational uses during the bathing season.

The monitoring frequency is maintained at five times per week.

Bacteria discharge data from 2011-2015 is shown in **Attachment C.** There has been only a single reported exceedance for bacteria limits at the facility from 2011-2015 (occurring in June 2015).

NON-CONVENTIONAL AND TOXIC POLLUTANTS

Total Residual Chlorine ("TRC")
Chlorine compounds produced by the chlorination of wastewater can be extremely toxic to aquatic life. Effluent limits are based on water quality criteria for total residual chlorine ("TRC") which Massachusetts adopted by reference to EPA's *2002 National Recommended Water Quality Criteria* (EPA-822-R-02-047). The acute and chronic fresh water aquatic life criteria for TRC are 19 µg/l (Criterion Maximum Concentration) and 11 µg/l (Criterion Continuous Concentration), respectively. Given a dilution factor of 24, the total residual chlorine limitations are calculated as follows:

Total Residual Chlorine Limitations based on criteria:

(acute criteria x dilution factor) = Acute (Maximum Daily) Limit[4]
(19 µg/l x 24) = 456 µg/l = 0.46 mg/l

(chronic criteria x dilution) = Chronic (Monthly Average) Limit
(11 µg/l x 24) = 264 µg/l = 0.26 mg/l

In the existing permit, Total Residual Chlorine limits are in effect April through October. It is expected that chlorine will only be used seasonally, during the period that bacteria limits are in effect. However, in order to fully protect aquatic life, the draft permit clarifies that the chlorine limit is in effect year-round and that effluent sampling for total residual chlorine is only required when chlorine is added to the treatment process.

TRC discharge data from 2011-2015 is shown in **Attachment C**.

Metals
The release of metals into surface waters from anthropogenic activities such as discharges from municipal wastewater treatment facilities can result in their accumulation to levels that are highly toxic to aquatic life. Therefore, it is imperative to evaluate the downstream effects of discharges of metals from POTWs. The results of metals analyses conducted on both the effluent and upstream receiving water in conjunction with Whole Effluent Toxicity tests from 2010-2015 were evaluated during the development of the draft permit (See **Attachment E**).

Metals may be present in both dissolved and particulate forms in the water column. Extensive studies suggest that it is the dissolved fraction that is biologically available, and therefore, presents the greatest risk of toxicity to aquatic life inhabiting the water column. (https://www.epa.gov/sites/production/files/2014-10/documents/handbook-chapter3.pdf. See section 3.6). As a result, water quality criteria are established in terms of dissolved metals. However, regulations at 40 C.F.R. 122.45(c) require, with limited exceptions, that metals limits in NPDES permits be expressed as total recoverable metals. This accounts for the potential for a transition from the particulate to dissolved form as the effluent mixes with the receiving water (*The Metals*

[4] The table in Part I.A. of the existing permit contains a typographical error in which the acute limit of 0.38 mg/l chlorine is in the "Average Weekly" column, rather than "Maximum Daily" column. The draft permit correctly sets the acute limit as a Maximum Daily limit.

Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion (USEPA 1996 [EPA- 823-B96-007]).

The applicable water quality criteria for metals are the *EPA National Recommended Water Quality Criteria 2002* (USEPA 2002 {EPA-822-R-02-047}), which have been incorporated into the Massachusetts SWQS by reference at 314 CMR 4.05 (5)(e). For cadmium, copper, nickel, lead and zinc the water quality criteria are hardness dependent. Because the reasonable potential analysis is performed using dilution under 7Q10 conditions, a projected receiving water hardness under 7Q10 conditions is calculated using the same mass balance equations and the median hardness of the effluent (91 mg/l) and upstream receiving water (43 mg/l), as reported in WET test reports for analyses conducted between 2010 and 2015 (see **Attachment E**) for a calculated downstream hardness of 45 mg/l. The applicable criteria are shown below in table 1.

Table 1 Factors Used to Calculate Acute and Chronic Total Recoverable Metals Criteria

Metal	Parameters				Total Recoverable Criteria	
	ma	ba	mc	bc	Acute Criteria (CMC) (ug/L)	Chronic Criteria (CCC) (ug/L)
Aluminum	—	—	—	—	750	87
Cadmium	1.0166	-3.924	0.7409	-4.719	0.95	0.15
Copper	0.9422	-1.700	0.8545	-1.702	6.60	4.72
Lead	1.273	-1.46	1.273	-4.705	29.54	1.15
Nickel	0.846	2.255	0.846	0.0584	238.75	26.54
Zinc	0.8473	0.884	0.8473	0.884	60.91	60.91

* Acute Criteria (CMC) = $\exp\{m_a*\ln(\text{hardness})+b_a\}$
** Chronic Criteria (CCC) = $\exp\{m_c*\ln(\text{hardness})+b_c\}$

EPA analyzed the available effluent and receiving water metals data to determine whether these pollutants "are or may be discharged at a level that causes, has reasonable potential to cause, or contributes to an excursion above" the water quality standard. 40 C.F.R. 122.44(d)(1)(i).

The effluent was characterized using a statistical analysis of effluent metals data, as reported in WET test reports from 2010-2015 (see **Attachment E**), to establish the 95th percentile of the lognormal distribution of the effluent data, which represents the maximum effluent concentration that can be expected to occur 95 percent of the time (i.e., the upper bound of the lognormal distribution of the data). The statistical approach to characterizing the effluent is described in **Attachment F.**

The receiving water concentration of metals downstream from the discharge is calculated taking into account dilution at 7Q10 conditions, through a mass balance equation that accounts for metals concentrations in the Connecticut River upstream of the discharge as reported in the facility's WET test reports (**Attachment E**). The ambient aluminum, copper and lead results that were used in the reasonable potential analysis calculations shown in Table 2 were submitted by the SWSC during the permit development process following discussions with EPA regarding elevated sample results from

2010-2015, which would have resulted in a positive reasonable potential determination, as possibly being due to contamination introduced during sample collection and analysis. The recently-submitted data are from samples that were collected in August 2016 and September 2016 using clean sampling techniques.

The equation used to calculate the downstream metals concentration is as follows:

$$\text{Receiving water concentration } (C_r) = \frac{(C_d * Q_d + C_s * Q_s)}{(Q_d + Q_s)}; \text{ where}$$

C_d = Upper bound effluent metals concentration data (95th percentile)
Q_d = Design flow of facility
C_s = Median metals concentration in [receiving water] upstream of discharge
Q_s = 7Q10 streamflow in [receiving water] upstream of discharge

The resultant in-stream concentrations (for both acute and chronic conditions) are then compared to the criteria for each metal. The results of this analysis with respect to aluminum, cadmium, copper, lead, nickel and zinc are shown below in Table 2.

As indicated in table 2, based on the 95th percentile of the distribution of effluent data and the median upstream concentrations, there is no reasonable potential (for either acute or chronic conditions) that the discharge of metals will cause or contribute to an exceedance of the applicable water quality criteria and, therefore, limitations for metals have not been included in the draft permit. The draft permit does, however, require the permittee to monitor for metals in conjunction with quarterly WET tests, as discussed below (see Whole Effluent Toxicity).

Table 2 Results of Reasonable Potential Analysis for Metals

Metal	Qd	Cd (95th Percentile)	Qs	Cs (Median)	Qr	Cr = (QdCd+QsCs)/Qr	Criteria		Acute Reasonable Potential	Chronic Reasonable Potential	Limits	
	MGD	ug/l	MGD	ug/l	MGD	ug/l	Acute (ug/l)	Chronic (ug/l)	Cd & Cr > Criteria	Cd & Cr > Criteria	Acute (ug/l)	Chronic (ug/l)
Aluminum	67	128	1574	44.5	1641	47.9	750	87	N	N	N/A	N/A
Cadmium		0		0		0.00	0.95	0.15	N	N	N/A	N/A
Copper		66		1.1		3.75	6.60	4.72	N	N	N/A	N/A
Lead		7.1		0		0.29	29.54	1.15	N	N	N/A	N/A
Nickel		68		5.5		8.05	238.75	26.54	N	N	N/A	N/A
Zinc		71.6		16.2		18.5	60.91	60.91	N	N	N/A	N/A

Nitrogen

It has been determined that excessive nitrogen loadings are causing significant water quality problems in Long Island Sound, including low dissolved oxygen. In December 2000, the Connecticut Department of Energy and Environmental Protection ("CT DEEP") completed a Total Maximum Daily Load ("TMDL") for addressing nitrogen-driven eutrophication impacts in Long Island Sound. The TMDL included a Waste Load Allocation ("WLA") for point sources and a Load Allocation (LA) for non-point sources. The point source WLA for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25% reduction from the baseline total nitrogen loading estimated in the TMDL. See TMDL--*A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound* (CT DEP 2000).

The TMDL targeted a 25% reduction in the TN from out-of-basin point source loadings at the time the TMDL was developed. The TMDL estimated baseline loading and targets for each watershed are shown on Table 3. In 2006, in order to facilitate the TMDL in out-of-basin NPDES permits, EPA completed an analysis of the out-of-basin point sources, using 2004-05 discharge data, to determine compliance with the TMDL requirement of a 25% reduction. As can be seen from the summary in Table 3, the total estimated loading from the Connecticut River was 13,836 lbs/day in 2004-2005. Of that amount, Springfield's annual average TN load was 1,648 lbs/day. The 2004-2005 estimated loadings for all of the out-of-basin facilities are provided in **Attachment G.**

Table 3 Estimated Baseline Out-Of-Basin Loadings of Total Nitrogen from the Connecticut, Housatonic and Thames Rivers

Basin	TMDL Baseline[5] (lbs/day)	TMDL Target[6] (lbs/day)	Estimated 2004-2005 Loading[7] (lbs/day)
Connecticut River	21,672	16,254	13,836
Housatonic River	3,286	2,464	2,151
Thames River	1,253	939	1,015
Totals	26,211	19,657	17,002

As can be seen from Table 3, the overall TMDL target of a 25 percent aggregate reduction from baseline loadings to the Connecticut River above the Massachusetts-Connecticut border was met as of 2004-05. In order to ensure that the aggregate nitrogen loading from out-of-basin point sources does not exceed the TMDL target of a 25 percent reduction over baseline loadings, EPA has included permit conditions for all existing treatment facilities in Massachusetts and New Hampshire that discharge to the Connecticut, Housatonic and Thames River watersheds, requiring the permittees to evaluate alternative methods of operating their treatment plants to optimize the removal of nitrogen, and to describe previous and ongoing optimization efforts. Facilities not currently engaged in optimization efforts are also required to implement optimization measures sufficient to ensure that their nitrogen loads do not increase, and that the aggregate 25% reduction is maintained. EPA has

[5] Estimated loading from TMDL (see Appendix 3 to CT DEP "Report on Nitrogen Loads to Long Island Sound", April 1998).
[6] Reduction of 25% from baseline loading.
[7] Estimated loading from 2004 – 2005 DMR data. Detailed summary is provided in Attachment G.

worked with the State of Vermont to ensure that similar requirements are included in its discharge permits.

The existing Springfield permit requires monthly monitoring for nitrogen (ammonia, nitrite and nitrate, and total Kjeldahl nitrogen). From 2012-2016, the annual average TN load discharged from this facility ranged from 1,650 lbs/day to 2,534 lbs/day and averaged 2,279 lbs/day. Nitrogen discharge data from 2001-2016 are shown in **Attachment H**.

Invitation for Public Comment on Three Options for Addressing Nitrogen Discharges from the Springfield Regional Wastewater Treatment Facility:

The draft permit proposes, in part I.H, special conditions requiring the facility to optimize system operation to meet an annual average mass-based TN optimization benchmark of 2,279 lbs/day. EPA invites the public to also comment on two alternatives to the optimization benchmark in the draft permit. No final determination with respect to nitrogen conditions has been made. Therefore, EPA encourages the public to comment on the benefits and/or drawbacks of all three options. EPA also welcomes the proposal of alternative approaches to ensuring that discharges of TN from the Springfield WWTF are consistent with the TMDL. The three options are summarized in Table 4 and described below.

Table 4 Options for Total Nitrogen Optimization Benchmarks

Option	Loading Benchmark	Concentration Benchmark
Draft Permit Proposal	2,279 lbs/day	None
Alternative 1	2,534 lbs/day	8 mg/L
Alternative 2	None	8 mg/L

Draft Permit TN Optimization Requirement

In order to ensure that the LIS TMDL waste load allocation for out-of-basin point sources continues to be met, the draft permit includes a requirement for the facility to continue to optimize operations to meet a benchmark based on the current annual average TN load of 2,279 lbs/day. This benchmark was derived by averaging the TN load discharged from the facility over the last five years (2012-2016).

The current annual average TN load is 631 lbs/day greater than the 2004-2005 estimated load from this facility. Applying the revised Springfield benchmark to the estimated 2004-2005 loading results in a revised estimated loading of 14,467 for the other facilities which is still less than the TMDL target for the Connecticut River of 16,254 lbs/day (see Table 5).

Table 5 Out-Of-Basin Loadings of Total Nitrogen from the Connecticut, Housatonic and Thames Rivers Accounting for Optimization Benchmark of 2,279 lb/day

Basin	TMDL Baseline[8] (lbs/day)	TMDL Target[9] (lbs/day)	Revised Estimated Loading[10] (lbs/day)
Connecticut River	21,672	16,254	14,467
Housatonic River	3,286	2,464	2,151
Thames River	1,253	939	1,015
Totals	26,211	19,657	17,633

Monitoring and reporting requirements have been included in the draft permit to ensure that there is no increase in discharges of total nitrogen from this facility compared to the existing annual average loading from this facility (2,279 lbs/day). This value is considered to be likely achievable by the permittee using existing facilities while still meeting the objectives of the TMDL. Specifically, the draft permit requires continued optimization of the treatment facility operations to enhance the removal of nitrogen in order to maintain the annual average mass discharge of total nitrogen at less than the existing mass loading of 2,279 lbs/day. In addition, the draft permit requires the permittee to submit an annual report which includes: a summary of activities related to optimizing nitrogen removal efficiencies; documents the nitrogen load discharged from the facility; and, for any year in which the annual average nitrogen load discharged from the facility exceeds 2,279 lbs/day, a description of what may have led to the increased loading (including any changes in influent flows/loads and any operational changes) and any supporting data.

EPA is aware of discussions between communities in the Springfield area regarding the consolidation and treatment of wastewater flows at the Springfield WWTP. Should a facility divert flows to the Springfield WWTF and terminate its NPDES permit, the TN mass loading optimization benchmark that was allocated to that facility could be applied to Springfield's TN optimization benchmark of 2,279 lbs/day that is proposed in the draft permit. This approach is consistent with the objectives of the TMDL, as there would not be a net increase in the TN load being discharged to the Connecticut River.

Nitrogen Optimization Benchmark Alternative 1

The first alternative includes an annual average concentration based optimization benchmark of 8 mg/L combined with a higher annual average mass based optimization benchmark of 2,534 lbs/day (which was the maximum annual average TN load discharged from the facility from 2012-2016 (See Attachment H.). This approach would provide Springfield with the flexibility necessary for some future growth without allocating all of the remaining assimilative capacity of the receiving water to

[8] Estimated loading from TMDL (see Appendix 3 to CT DEP "Report on Nitrogen Loads to Long Island Sound", April 1998).
[9] Reduction of 25% from baseline loading.
[10] Estimated loading from 2004 – 2005 DMR data, with the exception of the Springfield WWTF, whose loading was based on the average loading from 2012-2016 (2,279 lbs/day). See Attachments G and H.

one facility. Further, the TMDL target of a 25% reduction in TN loadings from baseline loadings would be achieved, since the estimated load to the Connecticut River from out-of-basin point sources would be 14,772 lbs/day[11]. This is less than the TMDL target of 16,254 lbs/day, allowing for non-POTW point source loadings as well as any possible new point source discharges.

Nitrogen Optimization Benchmark Alternative 2

The second alternative includes an annual average concentration based optimization benchmark of 8 mg/l without a specific load based benchmark to encourage a consistent level of treatment regardless of changes in flow at Springfield. An effluent TN concentration of 8 mg/l at Springfield's existing annual average effluent flow of 38 MGD (the average of the annual average effluent flow values from 2012-2016) results in an annual average mass loading of 2,535 lbs/day.

Based on current facility operation, the TMDL target of a 25% reduction in TN loadings from baseline loadings would be achieved, since recent data indicates that the estimated load to the Connecticut River from out-of-basin point sources has actually decreased well below the 2004-2005 estimate. The sum of the DMR TN data for out-of-basin discharges was 11,820 lbs/day in 2014 during a year when Springfield discharged 2,342 lbs/yr. Assuming other dischargers remain at 2014 levels and Springfield discharges 2,535 lbs/day, the total out-of-basin load would be 12,013 lbs/day which is still well below the 13,836 lbs/day estimate of out-of-basin loads from 2004-2005 data (see Table 3) and the TMDL target of 16,254 lbs/day. While modest increases in TN mass loading could be expected under this approach if Springfield adds additional sewer users, the total out-of-basin load is unlikely to be exceeded.

Future Nitrogen Limits

EPA and state agencies expect to update the estimate of all out-of-basin total nitrogen loads and may incorporate total nitrogen limits in future permit modifications or reissuances as may be necessary to address increases in discharge loads, a revised TMDL, or other new information that may warrant the incorporation of numeric permit limits. In December 2015, EPA signed a letter detailing an EPA Nitrogen Reduction Strategy. EPA's strategy recognizes that more work must be done to reduce nitrogen levels, further improve dissolved oxygen conditions, and attain other related water quality criteria necessary to meet designated aquatic life uses in Long Island Sound. EPA is working to establish thresholds for Western Long Island Sound and several coastal embayments, including the mouth of the Connecticut River. Documents regarding the EPA Nitrogen Reduction Strategy are available for public review on EPA's Long Island Sound website (http://longislandsoundstudy.net/issues-actions/water-quality/nitrogen-strategy/). Upon completion of establishing thresholds, allocations of total nitrogen loadings will be made where further reductions are necessary. If further reductions are needed for the Springfield discharge, a water quality-based limit will be added in a future permit action. EPA is exploring possible trading approaches and more details will follow in the future as part of the permitting process.

[11]An annual average TN load of 2,534 lbs/day is 886 lbs/day greater than the TN load discharged in 2004, which was used in EPA's 2006 analysis of out-of basin point sources to the CT River Watershed (see Table 3 and Attachments G and H). This increase would bring the total estimated loadings to the CT River from out-of-basin point sources to 14,772 lbs/day, which is below the TMD target of 16,254 lbs/day.

Ammonia

Ammonia can be toxic to aquatic life and is also an oxygen-demanding pollutant whose biological decomposition may cause reduced dissolved oxygen concentrations in the receiving water.

In addition to the ammonia effluent monitoring required under the existing permit, samples of the receiving water collected upstream from the discharge are also analyzed for ammonia in conjunction with whole effluent toxicity (WET) testing. Effluent and ambient ammonia monitoring data from 2010-2015 are provided in **Attachments C and G**.

The applicable Massachusetts ammonia criteria are those found in the 1999 *Update of Ambient Water Quality Criteria for Ammonia*, as referenced in the EPA *National Recommended Water Quality Criteria 2002* (USEPA 2002 [EPA-822-R-02-047]), which were incorporated into the Massachusetts SWQS, 314 CMR 4.05(5)(e) by reference.

Acute criteria are a function of receiving water pH, and are calculated using two equations: one for waters where salmonids may be present; and another for waters where salmonids are not present[12]. Chronic criteria are calculated as a function of receiving water pH and temperature using two equations: one for waters where early life stages of fish are present and another for waters where early life stages of fish are absent. These criteria, as they relate to the Springfield WWTF's discharge, were calculated for both the summer (June 1 – October 31) and winter (November 1 – May 31) periods based on the presence of salmonids and early life stages of fish, and are presented in Table 3. These equations, from the 1999 *Update of Ambient Water Quality Criteria for Ammonia*, as referenced in the EPA *National Recommended Water Quality Criteria 2002* (USEPA 2002 [EPA-822-R-02-047]), are shown below.

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

$$CCC = \left(\frac{0.0577}{1 + 10^{7.688-pH}} + \frac{2.487}{1 + 10^{pH-7.688}} \right) * MIN(2.85, (1.45*10^{0.028(25-T)})$$

Using the median pH value for ambient water in WET tests, and assumptions for temperature, the criteria are therefore.

[12]Equations for calculating acute (CMC) and chronic (CCC) criteria are found in the 1999 *Update of Ambient Water Quality Criteria for Ammonia*, as referenced in the EPA *National Recommended Water Quality Criteria 2002* (USEPA 2002 [EPA-822-R-02-047]).

Acute Criteria (CMC) = $(0.275/1+10^{7.204-pH}) + (39.0/1+10^{pH-7.204})$

Chronic Criteria (CCC) = $\{(0.0577/1+10^{7.688-pH}) + (2.487/1+10^{pH-7.688})\} * MIN (2.85, 1.45*10^{0.028*(25-T)})$

Table 6 Freshwater Ammonia Criteria

Season	Warm (June 1-Oct 31)	Cold (Nov 1-May 31)
Receiving Water pH, SU	6.9	6.9
Water Temperature, C	25	10
Fish Early Life Stages	Present	Present
Salmonids	Present	Present
Acute Criteria (mg/l as N)	26.2	26.2
Chronic Criteria (mg/l as N)	2.1	6.1

Reasonable Potential Analysis

EPA ammonia criteria recommend using the 30Q10 flow conditions in the receiving water (the lowest 30-day average daily flow with a 10-year expected recurrence interval) when establishing effluent limits. The 30Q10 flow data was not immediately available, so the analysis was done with the 7Q10 flow data. The 7Q10 flow (lowest 7-day average daily flow with 10-year expected recurrence) will be lower than 30Q10, providing less dilution. Therefore, if there is no reasonable potential to exceed water quality standards in stream with 7Q10 flow, there is no reasonable potential with 30Q10.

EPA evaluated the available effluent and ambient ammonia data for winter and summer to determine whether reasonable potential exists for the discharge to cause or contribute to instream excursions above the applicable ammonia criteria under 7Q10 conditions with effluent flow equal to design flow. From 2010 – 2015, the ambient median ammonia concentration from WET testing during the summer period (April through October) was 0.110 mg/l and the 95th percentile ammonia concentration of the effluent was 8.50 mg/l. The ambient median concentration of ammonia detected during this time period in the winter (November through March) was 0.235 mg/l and the 95th percentile concentration detected in samples of the effluent was 11.2 mg/l (see **Attachments C** and **G**). Using the formula below, the projected downstream ammonia concentrations from April through October, and from November through March, were calculated.

$$Q_d C_d + Q_s C_s = Q_r C_r$$

Where:

C_r = resultant downstream ammonia concentration (mg/l)
Q_d = effluent flow (design flow = 67 MGD)
C_d= 95th percentile effluent ammonia concentration (mg/l)
Q_s = upstream 7Q10 flow (1574 MGD)
C_s = median instream ammonia concentration, upstream from the discharge (mg/l)
Q_r = 7Q10 flow just downstream from the discharge ($Q_r = Q_s + Q_d$= 1641 MGD)

$$C_r = (Q_s C_s + Q_d C_d) / Q_r$$

The projected downstream concentrations of ammonia in the summer and winter periods, during the less-diluted 7Q10 conditions, are 0.46 and 0.68 mg/l, respectively, which are below both the acute and chronic criteria. Therefore, reasonable potential does not exist for the discharge of ammonia from the Facility to cause or contribute to a violation of water quality standards under critical flow (7Q10 or 30Q10 flows in the receiving water and effluent flow equal to the Facility's design flow) conditions.

The monitoring requirements for Nitrogen species are being increased to once per week in the draft permit from once per month in the existing permit in order to adequately evaluate discharges (see Nitrogen discussion above) and to ensure that discharges of ammonia from the facility remain below the level at which the receiving water would be negatively impacted.

Whole Effluent Toxicity

National studies conducted by EPA have demonstrated that domestic sources contribute toxic constituents to POTWs. These constituents include metals, chlorinated solvents and aromatic hydrocarbons among others. The Region's current policy is to include toxicity testing requirements in all municipal permits, while Section 101(a)(3) of the CWA specifically prohibits the discharge of toxic pollutants in toxic amounts

Based on the reasonable potential for toxicity resulting from domestic and industrial contributions, the low level of dilution at the discharge location, water quality standards, and in accordance with EPA regulation and policy, the draft permit includes chronic and acute toxicity limitations and monitoring requirements. (See, e.g., "Policy for the Development of Water Quality-Based Permit Limitations for Toxic Pollutants", 50 Fed. Reg. 30,784 (July 24, 1985); see also, EPA's Technical Support Document for Water Quality-Based Toxics Control). EPA Region I has developed a toxicity control policy. The policy requires wastewater treatment facilities to perform toxicity bioassays on their effluents. The MassDEP requires bioassay toxicity testing for state certification.

Pursuant to EPA Region I Policy, and MassDEP's *Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (February 1990), dischargers having a dilution factor greater than 20 and less than or equal to 100 are required to conduct acute toxicity testing four times per year. In accordance with the above guidance, the acute toxicity limit (LC50 of > 100%) in the existing permit has been maintained in the draft permit. Toxicity testing shall be conducted quarterly, during the months of March, June, September and December. Tests shall be conducted using the daphnid, Ceriodaphnia dubia, as the test organism and shall be performed in accordance with the Acute and Chronic WET test procedures included as **Attachments A** and **B**, respectively, to the draft permit.

The results of WET tests conducted from 2010 through 2015 indicate the facility had no violations of the WET permit limits. The results of WET tests that were conducted from 2010-2015 are provided in **Attachment C**.

EPA and MassDEP may use the results of the toxicity tests and chemical analyses conducted by the permittee, required by the permit, as well as national water quality criteria, state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants.

The draft permit adds requirements for the reporting of several selected parameters, including ammonia nitrogen (as N); hardness; alkalinity; and total recoverable aluminum, cadmium, copper, lead, nickel, and zinc, the results of which are determined through analyses conducted on samples of the 100 % effluent sample in conjunction with WET tests.

VIII. INDUSTRIAL PRETREATMENT PROGRAM

The permittee is required to administer a pretreatment program based on the authority granted under 40 C.F.R. 122.44(j), 40 C.F.R. Part 403 and Section 307 of the Act. The permittee's pretreatment program received EPA approval on December 9, 1998 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.

The Federal Pretreatment Regulations in 40 C.F.R. Part 403 were amended in October 1988, in July 1990, and again in October 2005. Those amendments established new requirements for implementation of pretreatment programs. Upon reissuance of this NPDES permit, the permittee is obligated to modify its pretreatment program to be 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.

In addition to the requirements described above, the draft permit requires the permittee to submit to EPA in writing, within 180 days of the permit's effective date, a description of proposed changes to permittee's pretreatment program deemed necessary to assure conformity with current federal pretreatment regulations. These requirements are included in the draft permit to ensure that the pretreatment program is consistent and up-to-date with all pretreatment requirements in effect. Lastly, the permittee must continue to submit, annually by March 31st, a pretreatment report detailing the activities of the program for the twelve-month period ending 60 days prior to the due date.

IX. OPERATION AND MAINTENANCE OF THE SEWER SYSTEM

EPA regulations set forth a standard condition for "Proper Operation and Maintenance" that is included in all NPDES permits. See 40 C.F.R. § 122.41(e). This condition is specified in Part II.B.1 (General Conditions) of the draft permit and it requires the proper operation and maintenance of all wastewater treatment systems and related facilities installed or used to achieve permit conditions.

EPA regulations also specify a standard condition to be included in all NPDES permits that specifically imposes on permittees a “duty to mitigate.” See 40 C.F.R. § 122.41(d). This condition is specified in Part II.B.3 of the draft permit and it requires permittees to take all reasonable steps –

which in some cases may include operations and maintenance work - to minimize or prevent any discharge in violation of the permit which has the reasonable likelihood of adversely affecting human health or the environment.

Proper operation of collection systems is critical to prevent blockages and equipment failures that would cause overflows of the collection system (sanitary sewer overflows, or SSOs), and to limit the amount of non-wastewater flow entering the collection system (inflow and infiltration or I/I). I/I in a collection system can pose a significant environmental problem because it may displace wastewater flow and thereby cause, or contribute to causing, SSOs. Moreover, I/I could reduce the capacity and efficiency of the treatment plant and cause bypasses of secondary treatment. Therefore, reducing I/I will help to minimize any SSOs and maximize the flow receiving proper treatment at the treatment plant. MassDEP has stated that the inclusion in NPDES permits of I/I control conditions is a standard State Certification requirement under Section 401 of the CWA and 40 C.F.R. § 124.55(b). Therefore, specific permit conditions have been included in Part I.B. and I.C. of the draft permit. These requirements include mapping of the wastewater collection system, preparing and implementing a collection system operation and maintenance plan, reporting unauthorized discharges including SSOs, maintaining an adequate maintenance staff, performing preventative maintenance, controlling infiltration and inflow to the extent necessary to prevent SSOs and I/I-related effluent violations at the wastewater treatment plant, and maintaining alternate power where necessary. These requirements are intended to minimize the occurrence of permit violations that have a reasonable likelihood of adversely affecting human health or the environment.

Several of the requirements in the draft permit were not included in the existing permit, including collection system mapping, and preparation of a collection system operation and maintenance plan. EPA has determined that these additional requirements are necessary to ensure the proper operation and maintenance of the collection system and has included schedules for completing these requirements in the draft permit.

Because the municipalities of Agawam, East Longmeadow, Longmeadow, Ludlow, West Springfield, and Wilbraham each own and operate collection systems that discharge to the SRWWTF, these municipalities have been included as co-permittees for the specific permit requirements discussed in the paragraph above. The historical background and legal framework underlying this co-permittee approach is set forth in **Attachment I** to this Fact Sheet, EPA Region 1 NPDES Permitting Approach for Publicly Owned Treatment Works that Include Municipal Satellite Sewage Collection Systems.

X. COMBINED SEWER OVERFLOWS

Description

The wastewater collection system that conveys flow to the SRWWTF consists partially of combined sewers that convey both sanitary sewage and stormwater runoff during rain events. During wet weather, the combined flow exceeds the capacity of the interceptor sewers and the wastewater treatment plant, and a portion of the combined flow is discharged to the Connecticut, Chicopee, and Mill Rivers through combined sewer overflows (CSOs). CSOs have been identified as a significant source of pollution to the Connecticut and Chicopee Rivers. See *2003 Connecticut River Water Quality Assessment Report* (MassDEP 2003) and *Chicopee River Watershed 2003 Water Quality Assessment Report* (MassDEP, October 2008).

The system currently has 24 CSO outfalls which discharge to the Connecticut, Mill and Chicopee Rivers (see list in **Attachment D**). CSO 042, which is the CSO outfall located at the treatment plant, was inadvertently omitted from the list of outfalls from which discharges are authorized by the existing CSO permit. It is incorporated here for completeness.

Attachment D includes CSO discharge data for 2011-2016. In 2016, the system had combined overflows of 160 million gallons, as well as discharges of 6.7 million gallons of partially treated sewage from the treatment plant through a CSO-related bypass of secondary treatment.

SWSC CSO Permitting History

In 1995, EPA issued a separate permit for discharges from the CSOs (NPDES Permit No. MA010333 ("CSO permit")). The City of Springfield, which at that time owned and operated both the treatment plant and the collection system, had requested separate permits because different divisions within the City were responsible for the treatment plant and the collection system. In 1996, the Springfield Water and Sewer Commission was established and it subsequently took ownership of both the treatment plant and the collection system in the City of Springfield (while ownership of satellite collection systems remains with those municipalities). The CSO permit was re-issued on September 30, 2009. Because the City of Springfield no longer operates either the treatment plant or collection system, there is no longer a reason for separate permits. EPA's general practice is to integrate treatment plant and CSO authorization in a single permit, therefore this draft permit integrates authorization for CSO discharges into the current treatment plant permit and EPA is proposing to terminate the existing CSO permit, and incorporate the CSO requirements into this draft permit.

Regulatory Framework

CSOs are point sources subject to NPDES permit requirements for both water-quality based and technology-based requirements but are not subject to the secondary treatment regulations applicable to publicly owned treatment works in accordance with 40 C.F.R. §133.103(a). Section 301(b)(1)(C) of the Clean Water Act of 1977 mandated compliance with water quality standards by July 1, 1977. Technology-based permit limits must be established for best conventional pollutant control technology (BCT) and best available technology economically achievable (BAT) based on best professional judgment (BPJ) in accordance with Section 301(b) and Section 402(a) of the Water Quality Act Amendments of 1987 (WQA). The framework for compliance with Clean Water Act requirements for CSOs is set forth in EPA's National CSO Control Policy, 59 Fed. Reg. 18688 (1994). It sets the following objectives:

1) To ensure that if the CSO discharges occur, they are only as a result of wet weather;
2) To bring all wet weather CSO discharge points into compliance with the technology-based requirements of the CWA and applicable federal and state water quality standards; and
3) To minimize water quality, aquatic biota, and human health impacts from wet weather flows.

Among the elements established to achieve these objectives, the CSO Policy set forth the minimum BCT/BAT controls (i.e., technology-based limits) that represent the BPJ of the Agency on a

consistent, national basis. These are the Nine Minimum Controls ("NMCs") defined in the CSO Policy and set forth in Part I.B. of the draft permit: (1) proper operation and regular maintenance programs for the sewer system and the combined sewer overflows; (2) maximum use of the collection system for storage; (3) review and modification of the pretreatment programs to assure CSO impacts are minimized; (4) maximization of flow to the POTW for treatment; (5) prohibition of dry weather overflows; (6) control of solid and floatable materials in CSOs; (7) pollution prevention programs which focus on contaminant reduction activities; (8) public notification to ensure that the public receives adequate notification of CSO occurrences and CSO impacts; and (9) monitoring to effectively characterize CSO impacts and the efficacy of CSO controls.

To reflect advances in technologies, the draft permit includes more specific public notification implementation level requirements to ensure that the public receives adequate notification of CSO occurrences and CSO impacts. The draft permit requires the permittee to develop a public notification plan to fulfil NMC #8. As part of this plan, notification shall be provided electronically to any interested party, and a posting made on the permittee's website, of a probable CSO activation within 24 hours of the initiation of any CSO discharge(s). Subsequently, within 24 hours of the termination of any CSO discharges(s), the permittee shall provide follow-up information on their website and in a follow-up electronic communication to any interested party. EPA invites comment on this new requirement during the public comment period with a goal of a workable public notification plan.

The Commission submitted documentation of its plan for implementing the Nine Minimum Controls, titled "Nine Minimum Control Measures Report" in 1997.

The CSO Policy also recommended that each community that has a combined sewer system develop and implement a long-term CSO control plan ("LTCP") that will ultimately result in compliance with the requirements of the CWA. The Commission submitted a Draft Long Term Control Plan Phase I Program in 2000, a revised draft LTCP in May 2012, and an Integrated Wastewater Plan (including an updated LTCP) in May 2014. The LTCP has not been completely approved. The SWSC is currently operating under federal administrative orders (latest being Administrative Order Docket No. 14-007 issued September 2014), requiring various projects to reduce or eliminate CSO discharges.

Permit Requirements

In accordance with the National CSO Policy, the draft permit contains the following conditions for the CSO discharges:

(i) Dry weather discharges from CSO outfalls are prohibited. Dry weather discharges must be immediately reported to EPA and MassDEP.

(ii) During wet weather, the discharges must not cause any exceedance of water quality standards.

(iii) The permittee shall meet the technology-based Nine Minimum Controls described above and shall comply with the implementation levels as set forth in Part I.B. of the draft permit.

(iv) The permittee shall review its entire NMC program and revise it as necessary. Documentation of this review and any resultant revisions made to the NMC program shall be submitted to EPA and MassDEP within 6 months of the effective date of the

permit. An annual report shall be provided by April 30th of each year which describes any subsequent revisions made to the NMC program and shall also include monitoring results from CSO discharges, and the status of CSO abatement projects.

XI. SLUDGE

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

The draft permit has been conditioned to ensure that sewage sludge use and disposal practices meet the CWA Section 405(d) Technical Standards. In addition, EPA-Region 1 has prepared a 72-page document entitled "EPA Region I NPDES Permit Sludge Compliance Guidance" for use by the permittee in determining their appropriate sludge conditions for their chosen method of sewage sludge use or disposal practices. This guidance document is available upon request from EPA Region 1 and may be found at: http://www.epa.gov/region1/npdes/permits/generic/sludgeguidance.pdf. The permittee is required to submit an annual report to EPA and MassDEP, by February 19th each year, containing the information specified in the Sludge Compliance Guidance document for their chosen method of sewage sludge use or disposal practices.

XII. ESSENTIAL FISH HABITAT

Under the 1996 Amendments (PL 104-267) to the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C.§ 1801 et seq. (1998)), EPA is required to consult with National Marine Fisheries Service (NMFS) if EPA's action or proposed actions that it funds, permits, or undertakes, "may adversely impact any essential fish habitat." 16 U.S.C. § 1855(b). The Amendments broadly define "essential fish habitat" as waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity. 16 U.S.C. § 1802(10). Adverse 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.

Essential fish habitat is only designated for fish species for which Federal Fisheries Management Plans exist. 16 U.S.C. § 1855(b)(1)(A). The U.S. Department of Commerce approved EFH designations for New England on March 3, 1999. Anadromous Atlantic salmon (*Salmo salar*) is the only managed species that would occur in the area which encompasses the discharge sites. The Connecticut River has been designated as EFH for Atlantic salmon adults, juveniles, and eggs and larvae. Observations of Atlantic salmon as far upstream as the Holyoke Dam from 2000 through 2014

have ranged from a low of 24 in 2001 to a high of 132 in 2005.[13] The USFWS discontinued its Atlantic salmon restocking program in 2012, although the state of Connecticut still stocks salmon in its rivers. Wild Atlantic salmon were observed spawning in the Farmington River in Connecticut for the first time in more than a century in 2015.

EPA has determined that the draft permit has been conditioned in such a way to be protective of EFH for Atlantic salmon for the following reasons:

- This permit action is a reissuance of an existing NPDES permit (i.e., not a new source of pollutants);
- The facility withdraws no water from the Connecticut River, so there is no potential for mortality to EFH species life stages from impingement or entrainment;
- Effluent dilution is calculated to be 24:1 under 7Q10 low flow conditions, and is likely much higher during wet weather when discharges from CSOs may occur;
- The draft permit prohibits discharges from CSOs during dry weather;
- The draft permit prohibits the discharge of pollutants or combinations of pollutants in toxic amounts;
- The draft permit prohibits a violation of water quality standards;
- Effluent limits and requirements were developed to be protective of aquatic life;
- Acute and chronic toxicity tests will be performed quarterly; and
- Limits specifically protective of aquatic organisms have been established for total residual chlorine based on water quality criteria.

EPA believes that the limitations and conditions in the draft permit adequately protect aquatic life, including those with designated EFH in the receiving water, and therefore additional mitigation is not warranted. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for our conclusion, NMFS will be notified and an EFH consultation will be initiated.

As a federal agency charged with authorizing the discharge from this facility, EPA has submitted the draft permit and fact sheet, along with a letter under separate cover, to NMFS Habitat Division.

XIII. ENDANGERED SPECIES ACT

The Endangered Species Act (ESA) of 1973, as amended, imposes requirements on Federal agencies related to the potential effects of their actions on endangered or threatened species of fish, wildlife, or plants (listed species) and their designated “critical habitat.” Section 7 of the ESA requires, in general, that Federal agencies insure that any actions they authorize, fund, or carry out, in the United States or upon the high seas, are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated “critical habitat” for those species. Federal agencies carry out their responsibilities under the ESA in consultation with, and assisted by, the Departments of Interior (DOI) and/or Commerce (DOC), depending on the species involved. The

[13] Historic fish counts at Holyoke Dam reported by the Connecticut River Coordinator available at https://www.fws.gov/r5crc/Fish/hist.html.

United States Fish & Wildlife Service (USFWS) of the DOI administers Section 7 consultations for freshwater species, while the National Marine Fisheries Service (NMFS) of DOC does so for marine species and anadromous fish.

As the federal agency charged with authorizing the discharges from this facility, EPA has reviewed available habitat information developed by the Services to see if one or more of the federal endangered or threatened species of fish, wildlife, or plants may be present within the influence of the discharge.

Based on the information available, EPA has determined that subadult and adult Atlantic sturgeon (*Acipenser brevirostrum*) are unlikely to be present in the action area of this discharge. However, because individuals have been observed on rare occasions in the Connecticut River upstream of the discharge, EPA has evaluated the potential impacts to this species in its assessment. Subadult and adult shortnose sturgeon (*Acipenser oxyrinchus*) are likely to be present in the action area of this discharge. Early life stages of shortnose sturgeon are unlikely to be present in the action area, however, EPA has considered the potential impacts to early life stages in its assessment as rare occurrences have been reported. In addition to the listed species described above, NMFS designated critical habitat for the Atlantic sturgeon in the Connecticut River from the mouth to the Holyoke Dam (New York Bight Unit 1 Connecticut River), effective September 18, 2017, which includes the action area. *See* 82 Fed. Reg. 39160 (August 17, 2017).

The dwarf wedgemussel (*Alasmidonta heterodon*) has been extirpated from most New England rivers but still has a viable population on the upper Connecticut River in Vermont and New Hampshire.[14] Dwarf wedgemussels have been observed in tributaries of the Connecticut River in Hampshire County, Massachusetts upstream of the action area. The Fort River, more than 16 miles upstream from the action area, currently supports a small population of dwarf wedgemussel. In addition, the Mill River in Northampton and Hatfield, MA sustains a patchily distributed population of dwarf wedgemussel.[15] The Mill River (and its tributaries) that support this population is not the same Mill River (in Springfield and Wilbraham) that receives discharges from the CSOs at issue. Dwarf wedgemussels rely on host fish species, such as tessellated darter, for dispersing larval stages (glochidia). McLain and Ross (2005) suggest that low host dispersal may result in patchy distributions of mussels over relatively small areas (such as those observed in the tributaries of the Connecticut River) and may inhibit natural recolonization and recovery of this species. Based on the

[14] Nedeau, E. 2009. Distribution, threats, and conservation of the dwarf wedgemussel (*Alasmidonta heterodon*) in the middle and northern macrosites of the Upper Connecticut River. Prepared for Vermont Fish and Wildlife Department and New Hampshire Fish and Game. April 2009.

U.S. Fish and Wildlife Service. 1993. Dwarf Wedgemussel (*Alasmidonta heterodon*) Recovery Plan. Region 5 USFWS. February 1993.

[15] U.S. Fish and Wildlife Service. 2013. Dwarf Wedgemussel (*Alasmidonta heterodon*) 5 Year Review: Summary and Evaluation. USFWS New England Field Office. April 2013.

McLain, D.C., M.R. Ross. 2005. Reproduction based on local patch size of *Alasmidonta heterodon* and dispersal by its darter host in the Mill River, Massachusetts, USA. J. N. Am. Benthol. Soc. 24:139-147.

known and expected distribution of dwarf wedgemussel, it is extremely unlikely that individuals are currently present in the action area. EPA has not considered this species further in this assessment. Having said that, the middle Connecticut River may support habitat suitable for dwarf wedgemussel should the population recover. The Draft Permit includes limitations and conditions designed to protect water quality in the Connecticut, Chicopee, and Mill Rivers, and, as such, will ensure protection of physical habitat suitable for the dwarf wedgemussel.

It is EPA's preliminary determination that any effects resulting from the operation of this facility and the discharge from the CSO outfalls, as governed by the permit action, on shortnose sturgeon, Atlantic sturgeon, or designated critical habitat for Atlantic sturgeon will be insignificant. The reasoning to support this position is set forth in a letter seeking concurrence from NMFS regarding this determination, included as **Attachment J** to this Fact Sheet. Based on this analysis EPA has determined that the reissuance of the Springfield WWTF NPDES permit is not likely to adversely affect any listed species or critical habitat under USFWS' or NMFS' jurisdiction. During the public comment period, EPA has provided a copy of the draft permit and Fact Sheet to both NMFS and USFWS.

XIV. MONITORING

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

As noted on page 6 of the permit, 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 (DMR) that is submitted to EPA.

The draft permit includes new provisions related to DMR submittals to EPA and the State. The draft permit requires that the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR. NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: http://www.epa.gov/netdmr. Further information about NetDMR, including contacts for EPA Region 1, is provided on this website. The permittee is currently submitting its DMRs using NetDMR.

All reports required under the permit shall be submitted to EPA as an electronic attachment to the DMR, unless otherwise specified in the permit. However, permittees must continue to send hard copies of reports other than DMRs to MassDEP until further notice from MassDEP.

XV. STATE CERTIFICATION REQUIREMENTS

EPA may not issue a permit unless MassDEP certifies that the effluent limitations included in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards or it is determined that this certification is waived. EPA has requested

permit certification by the State pursuant to 40 CFR §124.53 and expects the draft permit will be certified.

XVI. COMMENT PERIOD, HEARING REQUESTS, AND PROCEDURES FOR FINAL DECISIONS

All persons, including applicants, who believe any condition of the 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 U.S.EPA, Office of Ecosystem Protection, Att: Meridith Timony, Municipal Permits Unit (OEP06-1), 5 Post Office Square, Suite 100, Boston, MA 02109-3912 or to timony.meridith@epa.gov and to Claire Golden, Massachusetts Department of Environmental Protection, 205B Lowell Street, Wilmington, MA 01887 or to claire.golden@state.ma.us . 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 to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on the draft permit the Regional Administrator will respond to all significant comments and make these responses available to the public at EPA's Boston office.

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

XVII. EPA and MassDEP CONTACTS

Requests for additional information or questions concerning the draft permit may be addressed Monday through Friday, between the hours of 9:00 a.m. and 5:00 p.m., to:

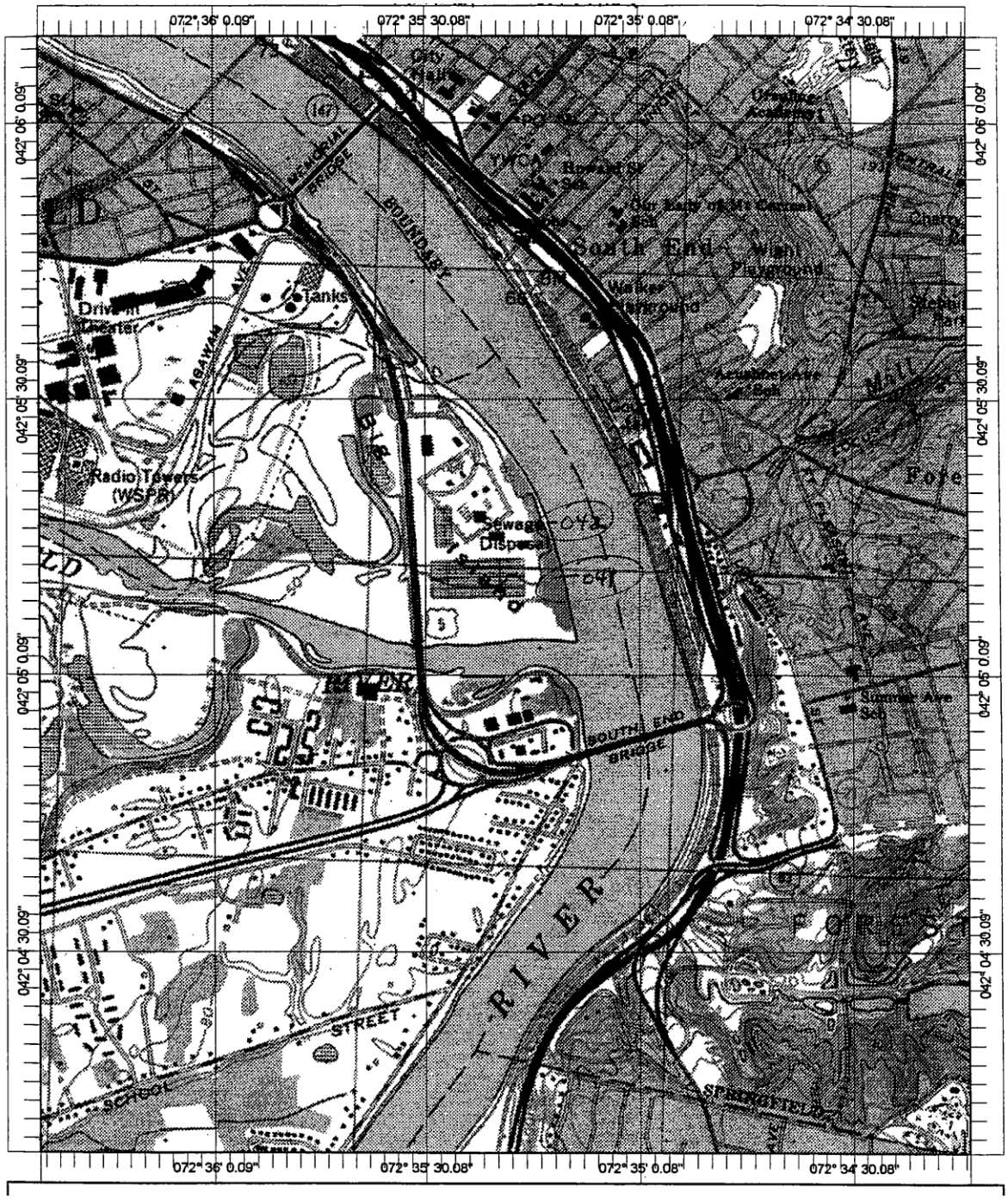
Meridith Timony
U.S. Environmental Protection Agency
Office of Ecosystem Protection (OEP06-1)
5 Post Office Square, Suite 100
Boston, MA 02109 – 3912
Telephone: (617) 918-1533
Fax: (617) 918-0533
E-mail: timony.meridith@epa.gov

Claire A. Golden
Massachusetts Department of Environmental Protection
Bureau of Water Resources
205B Lowell Street
Wilmington, MA 01887
Telephone: 978-694-3244
Fax: (978) 694-3498
Email: claire.golden@state.ma.us

November 15, 2017
Date

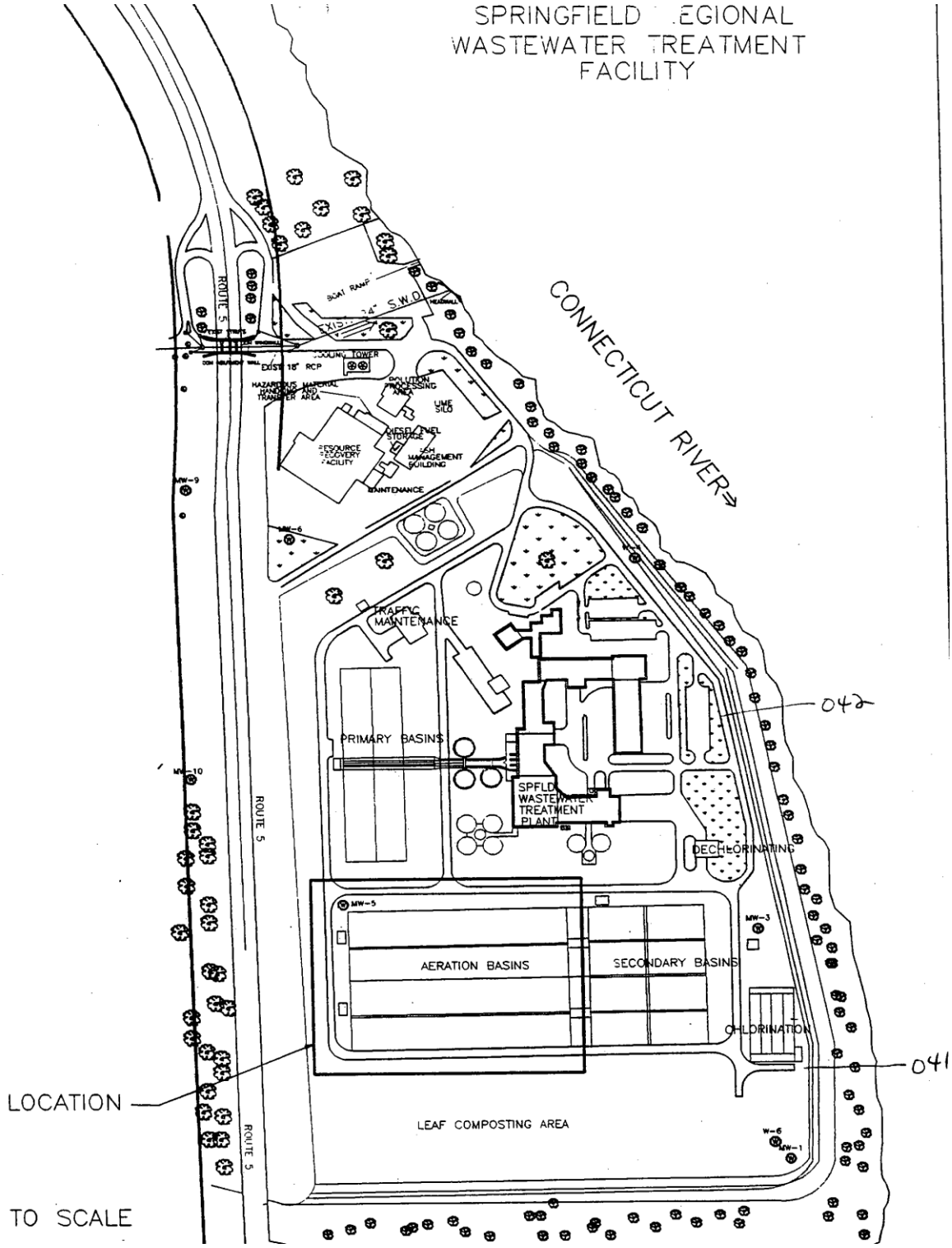
Lynne A. Hamjian, Acting Director
U.S. Environmental Protection Agency
Office of Ecosystem Protection
U.S. Environmental Protection Agency

Attachment A
Site Location



Location of SRWTF, Outfall 001 (previously Outfall 041) and Outfall 042

Attachment A
Site Location

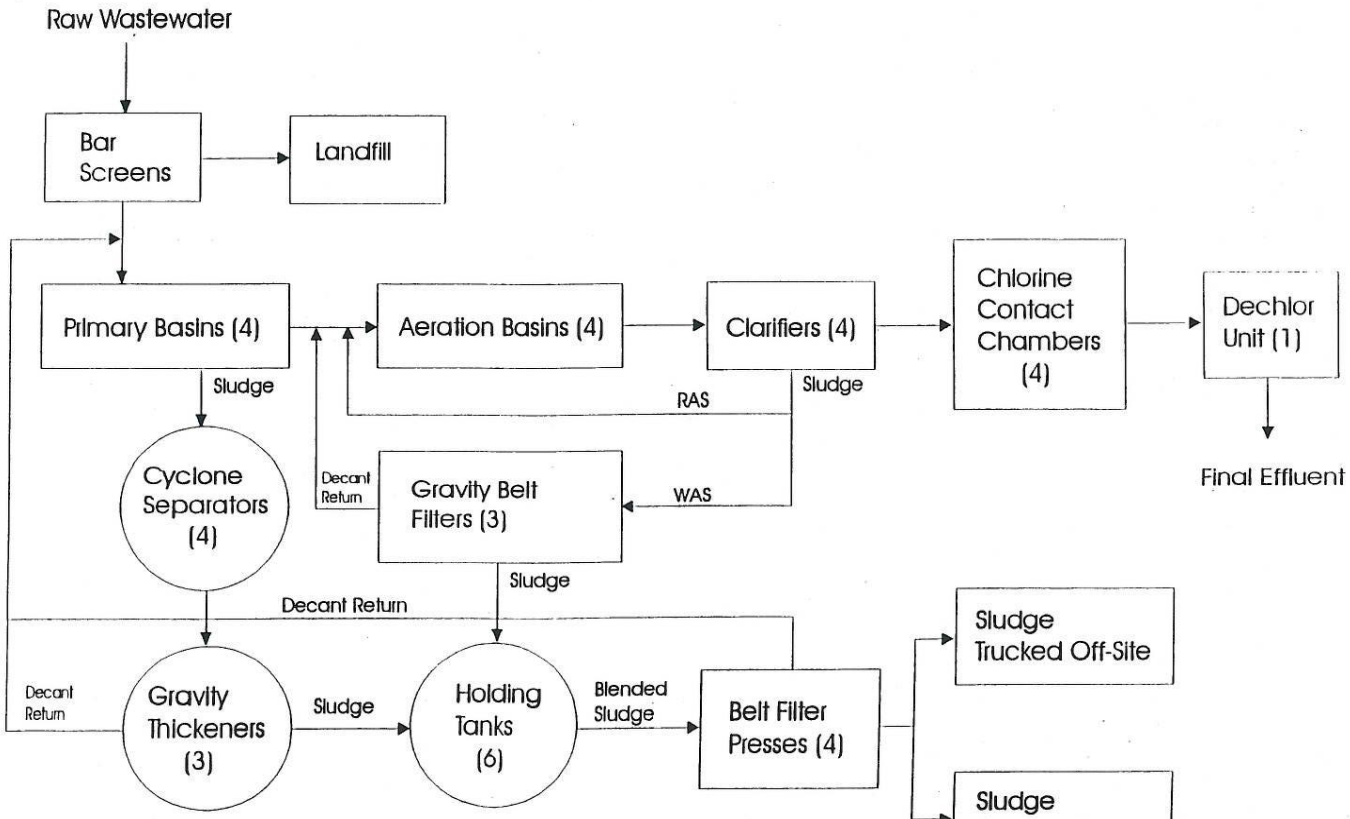


Location of SRWTF, Outfall 001 (previously Outfall 041) and Outfall 042

Additional Information

Attachment B
Process Flow Diagram

SPRINGFIELD REGIONAL WASTEWATER TREATMENT FACILITY
PROCESS FLOW DIAGRAM



Springfield Regional Wastewater Treatment Facility
NPDES 0101613 Form 2A Question B3

Attachment C

DMR Data

Effluent Data

Monitoring Period End Date	**Flow**		**BOD_5**						**TSS**					
	Daily Max	Monthly Average	Daily Max		Monthly Average		Weekly Average		Daily Max		Monthly Average		Weekly Average	
	MGD	MGD	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day	mg/l	lbs/day
31-Jan-11	35.6	37.5	8	2125	5	1316	6	1554	6	1612	4	1096	5	1214
28-Feb-11	74.8	37.3	47	29320	8	2911	12	5840	67	41797	8	3054	14	7230
31-Mar-11	123.1	38.1	84	51968	16	8860	28	25145	60	61599	15	8405	22	17760
30-Apr-11	86.7	38.4	100	47571	15	7347	25	12412	166	78968	18	8414	34	15942
31-May-11	74.7	39.3	54	28093	11	4801	17	8772	104	54106	12	5282	25	12650
30-Jun-11	65.5	40.4	42	21020	8	3589	13	5287	70	35034	10	4408	14	6338
31-Jul-11	48.8	41.1	6	2442	4	1208	5	1925	7	2812	4	1345	7	2632
31-Aug-11	100.8	42.1	7	3039	3	1144	3	1299	4	2521	3	1096	3	1146
30-Sep-11	106.3	43.8	55	28903	7	3212	13	6131	124	65162	10	5085	27	12947
31-Oct-11	76.4	44.9	33	21019	7	3288	9	4438	36	16560	6	2827	9	3675
30-Nov-11	88.3	46.1	49	23187	9	4149	11	5072	101	47794	10	4565	19	8648
31-Dec-11	89.5	47.4	74	34450	10	4553	15	6593	79	36778	7	3450	15	6553
31-Jan-12	65.5	48.5	68	34787	11	4626	22	9201	66	33764	10	4152	19	8287
29-Feb-12	50.6	48.7	56	23618	10	3435	15	5586	50	21088	7	2495	12	4389
31-Mar-12	51.1	47.2	13	4419	7	2445	9	3174	9	3838	5	1696	7	2363
30-Apr-12	61.6	46	19	8454	11	3546	15	4281	14	6962	7	2297	8	3235
31-May-12	54.5	45	10	2867	5	1509	7	2147	10	2867	4	1353	7	2091

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Flow**		**BOD_5**						**TSS**					
30-Jun-12	77.2	44.1	16	6924	6	1879	6	2271	19	8222	5	1676	6	2246
31-Jul-12	53.7	43.6	37	16565	5	1678	9	3402	29	12983	5	1398	8	2851
31-Aug-12	59	43	43	13689	9	2878	19	6611	55	23809	9	3303	23	8594
30-Sep-12	63.7	41.4	20	7081	5	1556	7	2060	17	6019	4	1217	6	1781
31-Oct-12	54.5	40.2	80	36389	11	3793	26	9759	80	36389	7	2500	18	7264
30-Nov-12	38	38.6	23	6503	8	2306	10	2923	6	1641	4	1164	5	1324
31-Dec-12	51.6	37	99	31441	12	3723	27	9361	153	48591	12	3884	37	12974
31-Jan-13	55.8	36.1	80	37236	17	5274	18	5369	58	21411	9	2885	10	3000
28-Feb-13	61.7	35.7	67	21407	14	4289	29	10563	62	18522	11	3518	19	6708
31-Mar-13	58.3	35.7	128	62215	9	3560	22	9952	201	97697	10	4352	31	14792
30-Apr-13	46.9	35.6	64	25023	7	2410	13	4833	67	26196	6	2060	13	4650
31-May-13	65.1	35.7	108	54295	14	5514	29	13440	163	81946	14	6252	37	18055
30-Jun-13	88	37	28	18749	8	3776	10	5835	17	11384	6	2974	12	6001
31-Jul-13	71	37.8	23	13610	8	2879	11	4484	14	8284	4	1731	6	2299
31-Aug-13	75.3	38	36	21355	14	4672	18	5607	24	11934	7	2468	10	3080
30-Sep-13	53.2	38.1	38	14334	10	3127	13	3810	48	18106	7	2356	11	3894
31-Oct-13	47.7	37.9	33	9523	10	2823	21	5730	24	6441	9	2552	16	4509
30-Nov-13	85.8	37.9	12	7158	7	1999	9	2383	14	5727	7	2012	10	2484
31-Dec-13	60.9	37.9	46	23356	10	3105	10	2778	29	14724	7	2318	7	2394
31-Jan-14	78.4	38.5	18	10923	9	3271	13	5184	14	8995	6	2176	9	3496
28-Feb-14	51	38.5	19	8121	10	3021	13	4115	12	5129	5	1551	7	2376
31-Mar-14	88.9	38.7	74	34579	14	5565	19	7738	45	21028	8	3072	11	4381

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Flow**		**BOD_5**						**TSS**					
30-Apr-14	78.2	40	137	81980	14	6866	14	8245	202	120876	14	7248	11	4795
31-May-14	94.9	41	74	37184	12	5539	31	17906	128	64318	10	4783	36	21077
30-Jun-14	57.8	39.9	14	5376	6	2012	7	2411	9	3456	5	1618	6	2028
31-Jul-14	55.1	39.6	25	8882	8	2744	10	3346	46	16343	8	2648	13	4267
31-Aug-14	77.9	39.4	9	3241	5	1535	6	2030	10	3896	5	1421	5	1797
30-Sep-14	40.4	39.2	10	2981	5	1316	8	2412	6	2022	4	987	4	1307
31-Oct-14	62.5	39.4	20	8228	4	1439	7	2166	25	10285	4	1434	8	2643
30-Nov-14	56.6	39.5	10	4722	4	1240	6	1736	6	2833	3	784	3	1010
31-Dec-14	83.8	40	15	9787	7	2610	8	3374	9	6292	5	1647	5	2133
31-Jan-15	76.2	39.7	19	12076	8	2699	9	3830	14	8898	5	1656	7	2745
28-Feb-15	32.8	39.4	15	3968	9	2438	10	2767	6	1616	5	1310	6	1478
31-Mar-15	58	39.3	61	29481	15	5661	22	9713	93	44947	15	5873	29	13137
30-Apr-15	59.5	38.8	104	47028	13	5201	21	9105	125	56524	13	5294	21	9460
31-May-15	41.4	37.4	80	27609	13	3859	13	3645	77	26573	9	2822	9	2440
30-Jun-15	72.7	37.4	92	42047	15	5908	33	13479	146	66727	18	7848	40	17406
31-Jul-15	49.3	37.1	19	6668	9	2673	12	4560	19	6668	8	2273	12	5512
31-Aug-15	46.4	36.7	63	24364	6	1765	13	4558	67	25911	6	1850	13	4698
30-Sep-15	64.3	36.6	9	3607	4	1160	5	1420	7	2806	4	1076	4	1188

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Flow**		**BOD_5**						**TSS**					
31-Oct-15	51.4	36.2	9	3364	5	1221	5	1493	7	1869	4	935	4	1105
30-Nov-15	45.1	35.8	11	4136	5	1252	6	1664	8	3008	4	897	5	1165
Existing Permit Limit	Report	67	Report	Reprt	30	16,763	45	25,145	Report	Reprt	30	16,763	45	25,145
Minimim	32.8	35.6	6	2125	3	1144	3	1299	4	1612	3	784	3	1010
Maximum	123.1	48.7	137	81980	17	8860	33	25145	202	120876	18	8414	40	21077
Average	65.1	40	44	20585	9.0	3291	14	5711	53	25158	7.6	2930	14	5723
Standard Deviation	18.4	3.42	33.9	17262	3.6	1704	7.5	4378	53	27100	3.7	1931	9.8	5119
No. Measurements	59	59	59	59	59	59	59	59	59	59	59	59	59	59

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Chlorine, total residual**			**Coliform, fecal general**		**pH**	
	Daily Max	Monthly Average	Weekly Average	Daily Max	Monthly Geo Mean	Max	Min
	mg/l	mg/l	mg/l	CFU/100ml	CFU/100ml	Standard Units	Standard Units
31-Jan-11						7.2	7
28-Feb-11						7.2	6.9
31-Mar-11						7.2	6.8
30-Apr-11	0.81	0.06	0.17	20	1	7.2	6.9
31-May-11	0.18	0.02	0.05	160	2	7.2	6.8
30-Jun-11	0.46	0.06	0.14	20	2	7.1	6.9
31-Jul-11	0.83	0.05	0.21	23	3	7.2	6.7
31-Aug-11	0.78	0.08	0.09	35	2	7.2	6.5
30-Sep-11	0.47	0.11	0.22	36	3	7.3	6.7
31-Oct-11	0.4	0.09	0.18	28	2	7.3	6.6
30-Nov-11						7.2	6.9
31-Dec-11						7.3	6.8
31-Jan-12						7.4	7
29-Feb-12						7.3	7
31-Mar-12						7.2	6.9
30-Apr-12	0	0	0	5	1	7.2	6.7
31-May-12	0.12	0.01	0.02	4	1	7.1	6.7
30-Jun-12	0.53	0.03	0.11	11	3	7.2	6.9

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Chlorine, total residual**			**Coliform, fecal general**		**pH**	
31-Jul-12	0.04	0	0.01	10	2	7.3	7
31-Aug-12	1.85	0.08	0.37	106	4	7.3	6.9
30-Sep-12	0.62	0.04	0.12	14	2	7.3	7
31-Oct-12	0.61	0.03	0.15	2	1	7.3	7
30-Nov-12						7.4	7.1
31-Dec-12						7.4	6.9
31-Jan-13						7.4	7
28-Feb-13						7.3	7
31-Mar-13						7.3	6.9
30-Apr-13	0.1	0	0	5	1	7.1	6.8
31-May-13	0.19	0.01	0.04	38	2	7.3	6.7
30-Jun-13	0.51	0.06	0.16	6	2	7.1	6.7
31-Jul-13	0.42	0.03	0.11	12	2	7.3	6.9
31-Aug-13	0.17	0.01	0.03	13	2	7.4	7.1
30-Sep-13	0.12	0.01	0.02	20	1	7.4	7
31-Oct-13	0	0	0	10	10	7.3	7
30-Nov-13						7.3	6.9
31-Dec-13						7.2	6.9
31-Jan-14						7.2	6.8
28-Feb-14						7.3	7
31-Mar-14						7.3	6.8
30-Apr-14	0.22	0.03	0.07	7	2	7.2	6.7

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Chlorine, total residual**			**Coliform, fecal general**		**pH**	
31-May-14	0.51	0.02	0.1	5	1	7.2	6.6
30-Jun-14	0.39	0.04	0.12	8	2	7.2	6.9
31-Jul-14	0.22	0.03	0.08	36	2	7.3	6.9
31-Aug-14	0.4	0.04	0.08	12	2	7.2	6.9
30-Sep-14	0.14	0.01	0.03	6	1	7.2	6.8
31-Oct-14	0.41	0.03	0.08	70	2	7.4	6.9
30-Nov-14						7.4	7
31-Dec-14						7.2	6.8
31-Jan-15						7.3	6.8
28-Feb-15						7.3	7.1
31-Mar-15						7.3	7
30-Apr-15	0.32	0.05	0.06	1	1	7.2	6.8
31-May-15	0.12	0.01	0.12	5	1	7.3	6.9
30-Jun-15	0.12	0.01	0.02	4200	3	7.3	7
31-Jul-15	0.13	0.01	0.03	184	2	7.3	7.1
31-Aug-15	0.37	0.02	0.07	110	2	7.3	7.1
30-Sep-15	0.22	0.01	0	17	2	7.3	6.9
31-Oct-15	0	0	0.04	6	2	7.3	7

Attachment C

DMR Data

Effluent Data (Continued)

Monitoring Period End Date	**Chlorine, total residual**			**Coliform, fecal general**		**pH**	
30-Nov-15						7.4	7
Existing Permit Limit	Report	0.22	0.38	400	200	6.5	8.3
Minimim	0	0	0	1	1	6.5	6.5
Maximum	1.9	0.11	0.37	4200	10	7.4	7.1
Average	0.37	0.03	0.09	150	2	7.3	6.9
Standard Deviation	0.35	0.03	0.08	706	2	0.1	0.1
No. Measurements	35	35	35	35	35	59	59

Attachment C

DMR Data

Influent Data

	Raw Sewage Influent			
Monitoring Period End Date	**BOD_5**		**TSS**	
	Monthly Average	Monthly Average	Monthly Average	Monthly Average
	mg/l	lbs/day	mg/l	lbs/day
31-Jan-11	295	78171	289	77289
28-Feb-11	261	79122	265	82259
31-Mar-11	138	62897	140	64730
30-Apr-11	153	64228	145	61261
31-May-11	161	66746	156	65322
30-Jun-11	166	67486	165	67980
31-Jul-11	210	71240	185	63136
31-Aug-11	195	67290	174	61612
30-Sep-11	161	69451	147	63477
31-Oct-11	147	62035	135	56771
30-Nov-11	158	67765	134	57479
31-Dec-11	143	62519	139	62648
31-Jan-12	170	62783	142	52538
29-Feb-12	191	62336	160	52307
31-Mar-12	195	65193	161	53938
30-Apr-12	221	67944	172	53209
31-May-12	212	67415	179	57285
30-Jun-12	209	66398	165	52915
31-Jul-12	231	64594	189	53046
31-Aug-12	231	68637	202	61006
30-Sep-12	212	61057	170	48955
31-Oct-12	224	65748	171	50305
30-Nov-12	239	65237	179	48897
31-Dec-12	246	68938	186	52505
31-Jan-13	240	67343	201	56736
28-Feb-13	217	62517	154	44862
31-Mar-13	189	62802	151	50572
30-Apr-13	211	63422	180	54204
31-May-13	240	76493	194	64182

Attachment C

DMR Data

Influent Data

	Raw Sewage Influent			
Monitoring Period End Date	**BOD_5**		**TSS**	
	Monthly Average	Monthly Average	Monthly Average	Monthly Average
	mg/l	lbs/day	mg/l	lbs/day
30-Jun-13	166	72114	152	67066
31-Jul-13	181	64651	163	59143
31-Aug-13	223	71381	204	65868
30-Sep-13	197	57590	184	54328
31-Oct-13	234	63577	200	54685
30-Nov-13	256	68805	213	58129
31-Dec-13	248	71716	200	58228
31-Jan-14	295	97318	199	66190
28-Feb-14	242	70425	206	60267
31-Mar-14	230	77256	178	61271
30-Apr-14	178	76087	152	65508
31-May-14	211	89531	168	71500
30-Jun-14	240	80807	185	62719
31-Jul-14	235	77340	192	64004
31-Aug-14	250	74736	205	62941
30-Sep-14	257	70770	232	64678
31-Oct-14	252	73911	196	57862
30-Nov-14	290	81553	215	61349
31-Dec-14	264	89400	163	55961
31-Jan-15	322	97909	185	56990
28-Feb-15	271	71564	189	49853
31-Mar-15	235	77303	176	58662

Attachment C

DMR Data

Influent Data

	Raw Sewage Influent			
Monitoring Period End Date	**BOD_5**		**TSS**	
	Monthly Average	Monthly Average	Monthly Average	Monthly Average
	mg/l	lbs/day	mg/l	lbs/day
30-Apr-15	185	69857	148	55957
31-May-15	286	84861	206	61128
30-Jun-15	254	84078	202	67846
31-Jul-15	268	77434	209	60853
31-Aug-15	272	71945	229	60853
30-Sep-15	254	64035	211	54921
31-Oct-15	274	70745	222	57051
30-Nov-15	281	66756	214	50686
Existing Permit Limit	Report	Report	Report	Report
Minimim	138	57590	134	44862
Maximum	322	97909	289	82259
Average	224	71242	184	59287
Standard Deviation	43.4	8645	30.7	6893
No. Measurements	59	59	59	59
No. Exceedances				

Attachment D

CSO Outfalls Locations and Volumes

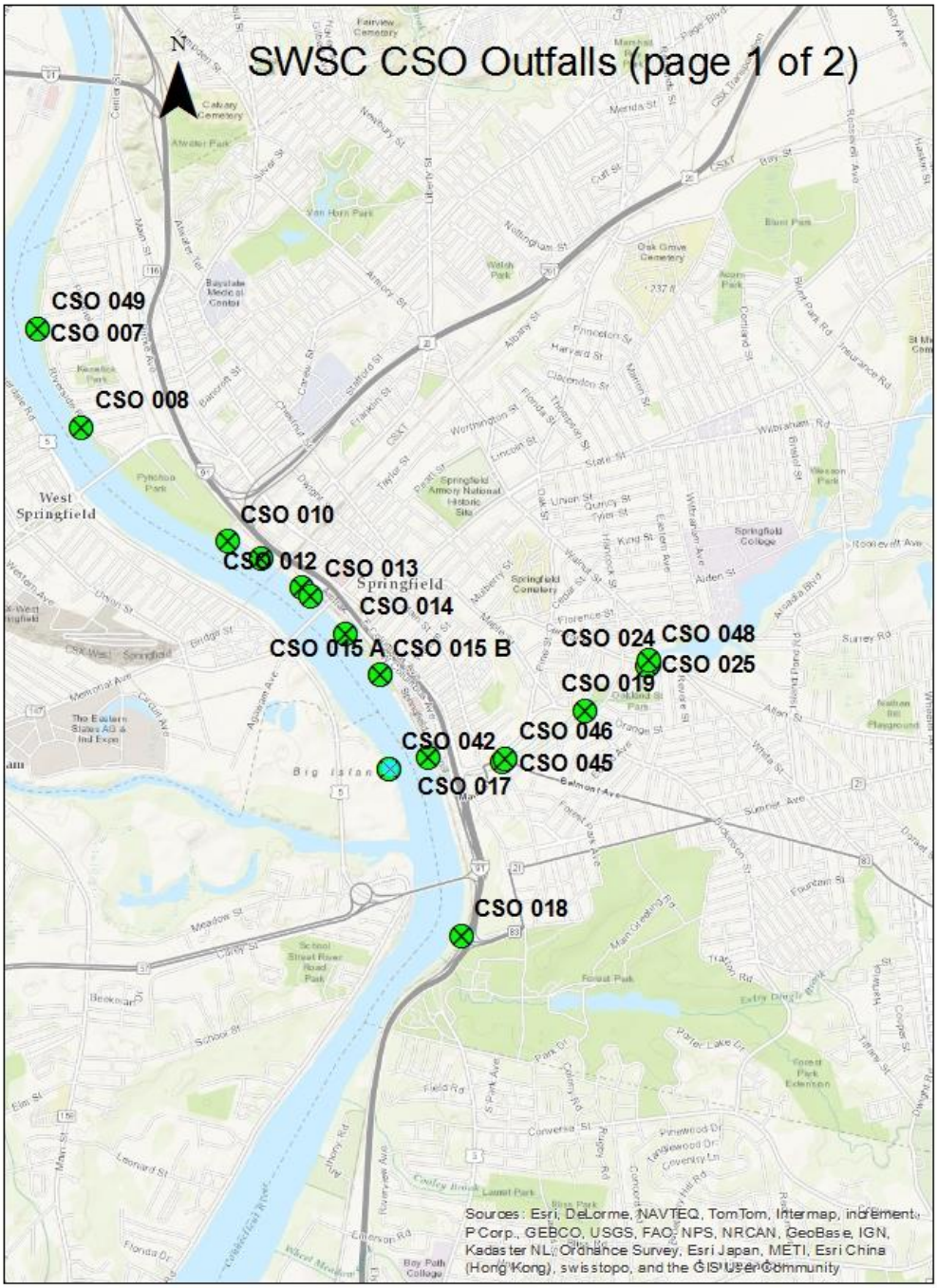
Outfall No.	Location	Latitude Longitude
To Connecticut River		
007	Rowland St.	42º 12’ 72º 62’
008	Washburn St. 4	42º 11’ 72º 62’
010	Clinton St.	42º 10’ 72º 60’
011	Liberty St.	42º 10’ 72º 59’
012	Worthington St.	42º 10’ 72º 59’
013	Bridge St.	42º 10’ 72º 59’
014	Elm St.	42º 10’ 72º 59’
015A	Union St.	42º 10’ 72º 59’
015B	Union St.	42º 10’ 72º 59’
016	York St.	42º 09’ 72º 59’
018	Longhill St.	42º 06’ 72º 58’
049	Springfield St.	42º 10’ 72º 62’
042	Bondi Island Treatment Plant	
To Mill River		
017	Fort Pleasant (Blake Hill)	42º 09’ 72º 58’
019	Mill, Orange, & Locust Sts.	42º 09’ 72º 57’
024	Rifle & Central Sts.	42º 10’ 72º 56’
025	Allen & Oakland Sts.	42º 10’ 72º 56’
045	Fort Pleasant Ave.	42º 06’ 72º 58’
046	Belmont St.	42º 06’ 72º 58’
048	Allen & Rifle Sts.	42º 10’ 72º 56’
To Chicopee River		
034	Main St.	42º 16’ 72º 51’
035	Front & Oak Sts.	42º 16’ 72º 50’
036A	Pinevale & Water Sts.	42º 16’ 72º 50’
037	Cedar St. 4	42º 16’ 72º 50’

Attachment D

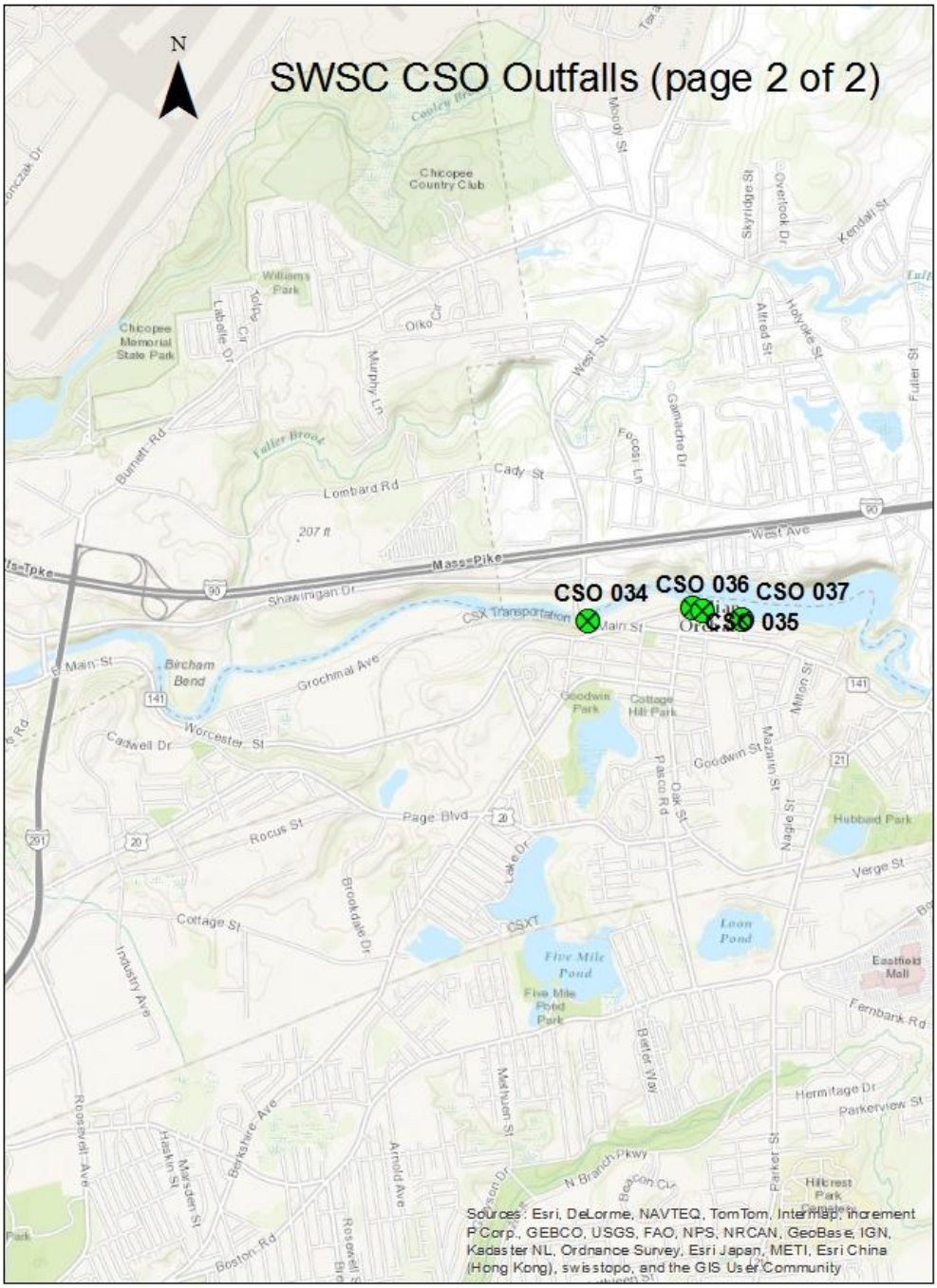
CSO overflow events, and volume (in 1,000's of gallons), as reported by SWSC

	2012		2013		2014		2015		2016	
Outfall	Number	Volume	Number	Volume	Number	Volume	Number	Volume	Number	Volume
7	2	0.3	1	83	2	941	6	550	3	450,773
8	37	65,573	7	20,903	0	0	11	14,446	2	380,020
10	32	43,179	37	74,458	47	77,494	34	48,446	36	34,047,622
11	41	86,026	4	68	4	475	1	0	4	208783
12	34	46,730	47	194,448	53	143,896	32	94,150	17	44,169,891
13	17	9,784	26	12,852	53	18,302	39	5,316	19	13,062,740
14	22	4,573	38	16,018	35	10,215	38	15,568	39	9,357,306
015A	42	9986	31	11,302	27	11,966	26	5,828	18	4,874,542
015B	0	0	9	379	11	844	6	83	1	3136
16	33	53,783	35	85,782	40	74,421	23	21,727	32	40,031,958
18	12	756	16	768	14	735	15	317	7	455784
49	13	1,639	15	1,873	25	2,486	24	4,104	11	482,649
17	13	1,635	22	1,779	18	2,616	17	1,404	7	67,851
19	17	18,650	7	8,258	9	2,150	4	8,857	3	1,142,252
24	9	448	7	1,258	9	392	7	254	1	21,126
25	11	1,241	18	2,231	18	1,342	10	534	13	1,377,830
45	15	268	24	696	19	1,545	12	670	6	1,491
46	20	1,813	23	2,425	18	3,316	10	1,293	6	618,669
48	10	4,957	12	530	16	1,319	15	6,355	11	439,059
34	14	1,648	21	4,848	21	1,278	12	841	10	61,447
35	22	2,146	11	1,754	11	2,462	10	726	5	337,987
37A	22	461	9	1,342	10	601	8	392	12	226,657
36A	24	3,680	14	3,160	17	3,485	14	2,310	5	1,327,395
042 at WWTF	10	5,532	11	4,307	16	16,313	12	6,878	8	6,435,000
CSO Total	472	361,510	445	451,522	493	378,594	386	241,049	276	159,581,968
WWTF Bypass	19	41,285	30	91,875	31	121,040	19	51,562	1	6,771,000

Attachment D



Attachment D



Attachment E
Metals Data

Effluent Data as Reported in WET Tests (all values are mg/l)

Date	Hardness	Aluminum	Copper	Cadmium	Chromium	Nickel	Lead	Zinc
6/8/2010	94.98	0.02	0.0106	0	0	0.009	0	0.0552
9/14/2010	114	0	0.0075	0	0	0.0046	0	0.0417
3/8/2011	78	0.13	0.0337	0	0	0.034	0	0.0595
6/7/2011	116.5	0	0.0066	0	0	0.045	0	0.0307
9/13/2011	94.94	0	0.0835	0	0	0.077	0	0.0655
3/7/2012	79.3	0.1	0.0913	0	0.019	0.056	0	0.0517
6/5/2012	88.55	0	0.0083	0	0	0.036	0	0.0465
9/11/2012	67.86	0.03	0.0091	0	0	0.022	0	0.0645
12/4/2012	71.6	0	0.0062	0	0	0.019	0	0.0376
3/6/2013	93.1	0	0.0051	0	0	0.019	0.008	0.0531
6/4/2013	58.51	0	0	0	0	0.046	0.006	0.0417
12/9/2013	79.49	0	0.0083	0	0	0.011	0	0.0446
3/4/2014	97.19	0.02	0.0342	0	0	0.016	0	0.0573
6/10/2014	87.47	0.02	0.0104	0	0	0.01	0	0.0543
9/9/2014	81.41	0.13	0.0354	0	0	0.007	0	0.0683
12/16/2014	99.61	0	0.0043	0	0	0.011	0	0.055
3/25/2015	102.5	0	0.0073	0	0	0.008	0	0.0516
6/9/2015	99.88	0	0.0258	0	0	0.011	0	0.0563
Median	**90.825**	**0**	**0.0087**	**0**	**0**	**0.0175**	**0**	**0.0537**

Attachment E
Metals Data

Ambient Data as Reported in WET Tests (all values are mg/l)

Date	Hardness	Aluminum	Copper	Nickel	Lead	Zinc	Ammonia	pH
6/8/2010	50.02	0.06	0.006	0.004	0	0.0143	0.1	7.04
9/14/2010	79.87	0.16	0.0063	0	0	0.0162	0	6.95
3/8/2011	27.4	0.40	0.0145	0.022	0	0.0128	0	6.94
6/7/2011	44.58	0.14	0.0365	0.049	0	0.0136	0.11	6.8
9/13/2011	32.02	0.88	0.1075	0.072	0.008	0.0343	0.35	7.05
3/7/2012	51.32	0.11	0.0435	0.026	0	0.0162	1.37	6.91
6/5/2012	31.75	0.48	0.0205	0.069	0.007	0.0201	0.11	6.79
9/11/2012	51.82	0.12	0.0084	0.028	0.011	0.0228	0	7.01
12/4/2012	40.9	0.08	0.0147	0.042	0	0.0191	0.31	6.58
3/6/2013	45.05	0.16	0.0031	0.014	0	0.0242	2.3	6.75
6/4/2013	20.95	0.02	0.0061	0	0	0.0038	0.18	6.86
12/9/2013	37.45	0.17	0.0144	0.005	0	0.0193	0.3	7.02
3/4/2014	36.61	0.08	0.0212	0.005	0	0.0104	0.1	6.95
6/10/2014	46.68	0.79	0.0063	0.004	0	0.0182	0.97	6.39
9/9/2014	53.45	0.09	0.0192	0	0	0.0071	0.13	6.86
12/16/2014	28.66	0.10	0.0033	0	0	0.0096	0.12	6.79
3/25/2015	46.12	0.07	0.0049	0.005	0	0.0096	0.17	6.63
6/9/2015	35.96	0.18	0.0244	0.006	0	0.0178	0.17	6.88
Median	**42.74**	**0.13**	**0.01445**	**0.0055**	**0**	**0.0162**	**0.15**	**6.87**

Statistical Approach to Characterizing the Effluent for Determining Reasonable Potential

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

To account for this, EPA has developed a statistical approach to characterizing effluent variability when the monitoring dataset includes 10 or more samples.[1] As "experience has shown that daily pollutant discharges are generally lognormally distributed," *TSD* at App. E, EPA uses a lognormal distribution to model the shape of the observed data, unless analysis indicates a different distributional model provides a better fit to the data. The model parameters (mean and variance) are derived from the monitoring data. The model parameter μ is the mean of the natural logs of the monitoring data values, while σ is the standard deviation of the natural logs of the monitoring data values.

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

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

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

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

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

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

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

Datasets including non-detect values

The *TSD* also includes a procedure for determine such percentiles when the dataset includes non-detect results, based on a delta-lognormal distribution. In the delta-lognormal procedures, nondetect values are weighted in proportion to their occurrence in the data. The values above the detection limit are assumed to be lognormally distributed values.

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

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

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

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

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

where δ is the proportion of nondetects in the monitoring dataset.

k = total number of dataset
r = number of nondetect values in the dataset
$\delta = r/k$

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

Example calculations of z_p^* for 95th percentile

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

Attachment G
NH, VT, MA Discharges to Connecticut River Watershed

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
NEW HAMPSHIRE					
Bethlehem Village District	NH0100501	0.340	0.220	19.600	35.962
Charlestown WWTF	NH0100765	1.100	0.360	19.600	58.847
Claremont WWTF	NH0101257	3.890	1.610	14.060	188.789
Colebrook WWTF	NH0100315	0.450	0.230	19.600	37.597
Groveton WWTF	NH0100226	0.370	0.290	19.600	47.405
Hanover WWTF	NH0100099	2.300	1.440	30.000	360.288
Hinsdale WWTF	NH0100382	0.300	0.300	19.600	49.039
Keene WWTF	NH0100790	6.000	3.910	12.700	414.139
Lancaster POTW	NH0100145	1.200	1.080	8.860	79.804
Lebanon WWTF	NH0100366	3.180	1.980	19.060	314.742
Lisbon WWTF	NH0100421	0.320	0.146	19.600	23.866
Littleton WWTF	NH0100153	1.500	0.880	10.060	73.832
Newport WWTF	NH0100200	1.300	0.700	19.600	114.425
Northumberland Village WPCF	NH0101206	0.060	0.060	19.600	9.808
Sunapee WPCF	NH0100544	0.640	0.380	15.500	49.123
Swanzey WWTP	NH0101150	0.167	0.090	19.600	14.712
Troy WWTF	NH0101052	0.265	0.060	19.600	9.808
Wasau Paper (industrial facility)	NH0001562		5.300	4.400	194.489

Attachment G
Out of Basin Point Source Loadings

Whitefield WWTF	NH0100510	0.185	0.140	19.600	22.885
Winchester WWTP	NH0100404	0.280	0.240	19.600	39.231
Woodsville Fire District	NH0100978	0.330	0.230	16.060	30.806
New Hampshire Total		**24.177**	**19.646**		**2169.596**

VERMONT					
Bellows Falls	VT0100013	1.405	0.610	21.060	107.141
Bethel	VT0100048	0.125	0.120	19.600	19.616
Bradford	VT0100803	0.145	0.140	19.600	22.885
Brattleboro	VT0100064	3.005	1.640	20.060	274.373
Bridgewater	VT0100846	0.045	0.040	19.600	6.539
Canaan	VT0100625	0.185	0.180	19.600	29.424
Cavendish	VT0100862	0.155	0.150	19.600	24.520
Chelsea	VT0100943	0.065	0.060	19.600	9.808
Chester	VT0100081	0.185	0.180	19.600	29.424
Danville	VT0100633	0.065	0.060	19.600	9.808
Lunenberg	VT0101061	0.085	0.080	19.600	13.077
Hartford	VT0100978	0.305	0.300	19.600	49.039
Ludlow	VT0100145	0.705	0.360	15.500	46.537
Lyndon	VT0100595	0.755	0.750	19.600	122.598
Putney	VT0100277	0.085	0.080	19.600	13.077
Randolph	VT0100285	0.405	0.400	19.600	65.386
Readsboro	VT0100731	0.755	0.750	19.600	122.598
Royalton	VT0100854	0.075	0.070	19.600	11.442
St. Johnsbury	VT0100579	1.600	1.140	12.060	114.662

Attachment G
Out of Basin Point Source Loadings

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
Saxtons River	VT0100609	0.105	0.100	19.600	16.346
Sherburne Fire Dist.	VT0101141	0.305	0.300	19.600	49.039
Woodstock WWTP	VT0100749	0.055	0.050	19.600	8.173
Springfield	VT0100374	2.200	1.250	12.060	125.726
Hartford	VT0101010	1.225	0.970	30.060	243.179
Whitingham	VT0101109	0.015	0.010	19.600	1.635
Whitingham Jacksonville	VT0101044	0.055	0.050	19.600	8.173
Cold Brook Fire Dist.	VT0101214	0.055	0.050	19.600	8.173
Wilmington	VT0100706	0.145	0.140	19.600	22.885
Windsor	VT0100919	1.135	0.450	19.600	73.559
Windsor-Weston	VT0100447	0.025	0.020	19.600	3.269
Woodstock WTP	VT0100757	0.455	0.450	19.600	73.559
Woodstock-Taftsville	VT0100765	0.015	0.010	19.600	1.635
Vermont Totals		**15.940**	**10.960**		**1727.302**

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
MASSACHUSETTS					

Attachment G
Out of Basin Point Source Loadings

Amherst	MA0100218	7.100	4.280	14.100	503.302
Athol	MA0100005	1.750	1.390	17.200	199.393
Barre	MA0103152	0.300	0.290	26.400	63.851
Belchertown	MA0102148	1.000	0.410	12.700	43.426
Charlemont	MA0103101	0.050	0.030	19.600	4.904
Chicopee	MA0101508	15.500	10.000	19.400	1617.960
Easthampton	MA0101478	3.800	3.020	19.600	493.661
Erving #1	MA0101516	1.020	0.320	29.300	78.196
Erving #2	MA0101052	2.700	1.800	3.200	48.038
Erving #3	MA0102776	0.010	0.010	19.600	1.635
Gardner	MA0100994	5.000	3.700	14.600	450.527
Greenfield	MA0101214	3.200	3.770	13.600	427.608
Hadley	MA0100099	0.540	0.320	25.900	69.122
Hardwick G	MA0100102	0.230	0.140	14.600	17.047
Hardwick W	MA0102431	0.040	0.010	12.300	1.026
Hatfield	MA0101290	0.500	0.220	15.600	28.623
Holyoke	MA0101630	17.500	9.700	8.600	695.723
Huntington	MA0101265	0.200	0.120	19.600	19.616
Monroe	MA0100188	0.020	0.010	19.600	1.635
Montague	MA0100137	1.830	1.600	12.900	172.138
N Brookfield	MA0101061	0.760	0.620	23.100	119.445
Northampton	MA0101818	8.600	4.400	22.100	810.982
Northfield	MA0100200	0.280	0.240	16.800	33.627
Northfield School	MA0032573	0.450	0.100	19.600	16.346
Old Deerfield	MA0101940	0.250	0.180	9.200	13.811
Orange	MA0101257	1.100	1.200	8.600	86.069
Palmer	MA0101168	5.600	2.400	18.800	376.301
Royalston	MA0100161	0.040	0.070	19.600	11.442
Russell	MA0100960	0.240	0.160	19.600	26.154
Shelburne Falls	MA0101044	0.250	0.220	16.900	31.008

South Deerfield	MA0101648	0.850	0.700	7.900	46.120
South Hadley	MA0100455	4.200	3.300	28.800	792.634
Spencer	MA0100919	1.080	0.560	13.600	63.517
Springfield	MA0103331	67.000	45.400	4.300	1628.135
Sunderland	MA0101079	0.500	0.190	8.700	13.786
Templeton	MA0100340	2.800	0.400	26.400	88.070

NH, VT, MA Discharges to Connecticut River Watershed

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
Ware	MA0100889	1.000	0.740	9.400	58.013
Warren	MA0101567	1.500	0.530	14.100	62.325
Westfield	MA0101800	6.100	3.780	20.400	643.114
Winchendon	MA0100862	1.100	0.610	15.500	78.855
Woronoco Village	MA0103233	0.020	0.010	19.600	1.635
Massachusetts Totals		**166.010**	**106.950**		**9938.820**

1. Design flow – typically included as a permit limit in MA and VT but not in NH.
2. Average discharge flow for 2004 – 2005. If no data in PCS, average flow was assumed to equal design flow.
3. Total nitrogen value based on effluent monitoring data. If no effluent monitoring data, total nitrogen value assumed to equal average of MA secondary treatment facilities (19.6 mg/l), average of MA seasonal nitrification facilities (15.5 mg/l), or average of MA year round nitrification facilities (12.7 mg/l). Average total nitrogen values based on a review of 27 MA facilities with effluent monitoring data. Facility is

assumed to be a secondary treatment facility unless ammonia data is available and indicates some level of nitrification.

4. Current total nitrogen load.

Total Nitrogen Load = 13,836 lbs/day
MA (41 facilities) = 9,939 lbs/day (72%)
VT (32 facilities) = 1,727 lbs/day (12%)
NH (21 facilities) = 2170 lbs/day (16%)
TMDL Baseline Load = 21,672 lbs/day

TMDL Allocation = 16,254 lbs/day (25% reduction)

MA Discharges to Housatonic River Watershed

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
Crane	MA0000671		3.100	8.200	212.003
Great Barrington	MA0101524	3.200	2.600	17.000	368.628
Lee	MA0100153	1.000	0.870	14.500	105.209
Lenox	MA0100935	1.190	0.790	11.800	77.745
Mead Laurel Mill	MA0001716		1.500	6.400	80.064
Mead Willow Mill	MA0001848		1.100	4.600	42.200
Pittsfield	MA0101681	17.000	12.000	12.400	1240.992
Stockbridge	MA0101087	0.300	0.240	11.100	22.218
West Stockbridge	MA0103110	0.076	0.018	15.500	2.327
Massachusetts Totals			**22.218**	**101.500**	**2151.386**

Attachment G
Out of Basin Point Source Loadings

1. Design flow – typically included as a permit limit in MA and VT but not in NH.
2. Average discharge flow for 2004 – 2005. If no data in PCS, average flow was assumed to equal design flow.
3. Total nitrogen value based on effluent monitoring data. If no effluent monitoring data, total nitrogen value assumed to equal average of MA secondary treatment facilities (19.6 mg/l), average of MA seasonal nitrification facilities (15.5 mg/l), or average of MA year round nitrification facilities (12.7 mg/l). Average total nitrogen values based on a review of 27 MA facilities with effluent monitoring data. Facility is assumed to be a secondary treatment facility unless ammonia data is available and indicates some level of nitrification.
4. Current total nitrogen load.

Total Nitrogen Load = 2151.386 lbs/day

TMDL Baseline Load = 3,286 lbs/day
TMDL Allocation = 2,464 lbs/day (25% reduction)

MA Discharges to Thames River Watershed

FACILITY NAME	PERMIT NUMBER	DESIGN FLOW (MGD)[1]	AVERAGE FLOW (MGD)[2]	TOTAL NITROGEN (mg/l)[3]	TOTAL NITROGEN - Existing Flow(lbs/day)[4]
MASSACHUSETTS					
Charlton	MA0101141	0.450	0.200	12.700	21.184
Leicester	MA0101796	0.350	0.290	15.500	37.488
Oxford	MA0100170	0.500	0.230	15.500	29.732
Southbridge	MA0100901	3.770	2.900	15.500	374.883
Sturbridge	MA0100421	0.750	0.600	10.400	52.042

Attachment G
Out of Basin Point Source Loadings

Webster	MA0100439	6.000	3.440	17.400	499.199
Massachusetts Totals		**11.820**	**7.660**		**1014.528**

1. Design flow – typically included as a permit limit in MA and VT but not in NH.
2. Average discharge flow for 2004 – 2005. If no data in PCS, average flow was assumed to equal design flow.
3. Total nitrogen value based on effluent monitoring data. If no effluent monitoring data, total nitrogen value assumed to equal average of MA secondary treatment facilities (19.6 mg/l), average of MA seasonal nitrification facilities (15.5 mg/l), or average of MA year round nitrification facilities (12.7 mg/l). Average total nitrogen values based on a review of 27 MA facilities with effluent monitoring data. Facility is assumed to be a secondary treatment facility unless ammonia data is available and indicates some level of nitrification.
4. Current total nitrogen load.

Total Nitrogen Load = 1014.528 lbs/day

TMDL Baseline Load = 1,253 lbs/day

TMDL Allocation = 939 lbs/day (25% reduction)

Attachment H

Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-Feb-2001	36.9	3.1	2.24	5.34	1,638	1643
31-Mar-2001	48.7	1.84	2	3.84	1,554	1560
30-Apr-2001	56.33	2.26	1.9	4.16	1,948	1954
31-May-2001	44.7	2.35	1.65	4	1,486	1491
30-Jun-2001	42.3	1.74	1.12	2.86	1,006	1009
31-Jul-2001	41.57	2.94			0	0
31-Aug-2001	40.9	1.86	1.76	3.62	1,231	1235
30-Sep-2001	37.4	2.08	1.18	3.26	1,013	1017
31-Oct-2001	40.25	1.95	1.18	3.13	1,047	1051
30-Nov-2001	41.3	3.18	1.23	4.41	1,514	1519
31-Dec-2001	40.8	6.54	3.696	10.236	3,472	3483
31-Jan-2002	39.1	3.63	2.3	5.93	1,927	1934
28-Feb-2002	38.8	1.47	1.8	3.27	1,055	1058
31-Mar-2002	37.8	2.21	1.9	4.11	1,291	1296
30-Apr-2002	36.4	3.52	1	4.52	1,368	1372
31-May-2002	36.1	2.75	1.76	4.51	1,353	1358
30-Jun-2002	35.7	3.96	1.18	5.14	1,525	1530
31-Jul-2002	35.5	4.14	1.18	5.32	1,570	1575
31-Aug-2002	35.3	3.71	1.18	4.89	1,435	1440
30-Sep-2002	35.2	0.455	1.6	2.055	601	603
31-Oct-2002	35.2	3.93	1.26	5.19	1,519	1524
30-Nov-2002	35.9	2.06	1.23	3.29	982	985
31-Dec-2002	36.3	3	1.18	4.18	1,261	1265
31-Jan-2003	37.15	2.12	1.47	3.59	1,109	1112
28-Feb-2003	37.38	3.32	4.12	7.44	2,312	2319
31-Mar-2003	38.5	3.14	3.39	6.53	2,090	2097
30-Apr-2003	39.4	2.01	1.23	3.24	1,061	1065
31-May-2003	39.8	4.52	2.24	6.76	2,236	2244
30-Jun-2003	40.9	3.65	2.94	6.59	2,240	2248
31-Jul-2003	41.6	2.82	2.46	5.28	1,826	1832

Attachment H

Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-Aug-2003	42.2	3.25	1.18	4.43	1,554	1559
30-Sep-2003	40.1	2.17	1.18	3.35	1,117	1120
31-Oct-2003	44.1	0.357	2.06	2.417	886	889
30-Nov-2003	44.8	2.55	1.23	3.78	1,408	1412
31-Dec-2003	45.8	3.2	1.23	4.43	1,687	1692
31-Jan-2004	46.5	3.1	2.06	5.16	1,994	2001
29-Feb-2004	46.6	2.11	1.12	3.23	1,251	1255
31-Mar-2004	45.9	2.19	1.4	3.59	1,370	1374
30-Apr-2004	46.2	2.51	0	2.51	964	967
31-May-2004	46.5	3.11	0	3.11	1,202	1206
30-Jun-2004	45.6	2.93	1.18	4.11	1,558	1563
31-Jul-2004	45.4	3.23	1.76	4.99	1,883	1889
31-Aug-2004	45.3	4.13	0	4.13	1,555	1560
30-Sep-2004	45.2	4.4	1.12	5.52	2,074	2081
31-Oct-2004	44.5	4	0	4	1,480	1485
30-Nov-2004	43.7	4.87	1.96	6.83	2,481	2489
31-Dec-2004	43.4	3.06	0	3.06	1,104	1108
31-Jan-2005	43.2	3.06	1.47	4.53	1,627	1632
28-Feb-2005	49.9	0.988		0.988	410	411
31-Mar-2005	44.2	3.58	0	3.58	1,315	1320
30-Apr-2005	44.2	2.78	0	2.78	1,021	1025
31-May-2005	44	2.17	1.18	3.35	1,225	1229
30-Jun-2005	43.9	2.03	2.35	4.38	1,598	1604
31-Jul-2005	43.8	3.78	1.6	5.38	1,959	1965
31-Aug-2005	43.6	4.06	3.23	7.29	2,642	2651
30-Sep-2005	43.2	2.12	1.6	3.72	1,336	1340
31-Oct-2005	45.6	2.75	0	2.75	1,042	1046
30-Nov-2005	47	4.24	1.6	5.84	2,282	2289
31-Dec-2005	47.5	4.14	1.4	5.54	2,187	2195
31-Jan-2006	48.9	1.78	0	1.78	724	726

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Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-Feb-2006	49.9	0.988		0.988	410	411
31-Mar-2006	49.7	1.95	1.76	3.71	1,533	1538
30-Apr-2006	48.4	2.79	1.4	4.19	1,686	1691
31-May-2006	48.7	1.57	2.52	4.09	1,656	1661
30-Jun-2006	49.8	1.64	2.94	4.58	1,896	1902
31-Jul-2006	50.6	1.18	2.65	3.83	1,611	1616
31-Aug-2006	51.1	3.07	2.52	5.59	2,374	2382
30-Sep-2006	51.3	2.22	5.54	7.76	3,309	3320
31-Oct-2006	49.2	2.82	0	2.82	1,153	1157
30-Nov-2006	48.4	0.118	3.08	3.198	1,287	1291
31-Dec-2006	47.5	1.81	0	1.81	715	717
31-Jan-2007	45.7	0.842	3.53	4.372	1,661	1666
28-Feb-2007	47.5	0.606	5.6	6.206	2,450	2459
31-Mar-2007	43.9	0.234	4.41	4.644	1,695	1700
30-Apr-2007	45.2	1.18	1.18	2.36	887	890
31-May-2007	44.9	0.131	2.94	3.071	1,146	1150
30-Jun-2007	43.7	2.81	2.24	5.05	1,834	1841
31-Jul-2007	42.8	6.75	3.64	10.39	3,696	3709
31-Aug-2007	42.3	3.21	2.35	5.56	1,955	1961
30-Sep-2007	41.9	3.36	1.47	4.83	1,682	1688
31-Oct-2007	41.3	266	0		0	0
30-Nov-2007	40.4	2.1	1.54	3.64	1,222	1226
31-Dec-2007	39.8	2.37	2.16	4.53	1,499	1504
31-Jan-2008	39.5	1.79	1.29	3.08	1,011	1015
29-Feb-2008	41.5	2.64	1.18	3.82	1,318	1322
31-Mar-2008	42.5	1.86	1.18	3.04	1,074	1078
30-Apr-2008	41.8	2.37	1.47	3.84	1,334	1339
31-May-2008	41.7	3.08	3.23	6.31	2,187	2194
30-Jun-2008	41.9	3.92	2.16	6.08	2,118	2125
31-Jul-2008	42.6	2.46	1.79	4.25	1,505	1510

Attachment H

Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-Aug-2008	43.7	2.81	1.67	4.48	1,627	1633
30-Sep-2008	45	3.34	2.162	5.502	2,058	2065
31-Oct-2008	45.6	3.38	2.35	5.73	2,172	2179
30-Nov-2008	46.1	2.96	1.45	4.41	1,690	1696
31-Dec-2008	47.6	1.73	1.37	3.1	1,227	1231
31-Jan-2009	48.1	3.24	2.07	5.31	2,123	2130
28-Feb-2009	46.7	3.19	3.49	6.68	2,593	2602
31-Mar-2009	45.8	3.39	1.6	4.99	1,900	1906
30-Apr-2009	45.1	3.79	2.31	6.1	2,287	2294
31-May-2009	44.8	5	2.45	7.45	2,774	2784
30-Jun-2009	44.8	4.89	3.2	8.09	3,013	3023
31-Jul-2009	45.1	3.28	2.5	5.78	2,167	2174
31-Aug-2009	44.9	4.88	1.2	6.08	2,269	2277
30-Sep-2009	44	2.87	0	2.87	1,050	1053
31-Oct-2009	43.7	2.743	2.8	5.543	2,014	2020
30-Nov-2009	43.3	0.78	3.4	4.18	1,504	1509
31-Dec-2009	43.3	0.65	10	10.65	3,833	3846
31-Jan-2010	42	1.3	2.5	3.8	1,327	1331
28-Feb-2010	37.3	1.478	2.1	3.578	1,109	1113
31-Mar-2010	38.1	0.67	6.7	7.37	2,334	2342
30-Apr-2010	42.3	3.356	1.8	5.156	1,813	1819
31-May-2010	42.2	1.5	1.5	3	1,052	1056
30-Jun-2010	41.7	5.82	1.7	7.52	2,607	2615
31-Jul-2010	40.2	2.8	2.5	5.3	1,771	1777
31-Aug-2010	39	2.659	2.8	5.459	1,770	1776
30-Sep-2010	38.5	4.42	2	6.42	2,055	2061
31-Oct-2010	38.3	7.569	1.1	8.669	2,760	2769
30-Nov-2010	38.4	2.467	2.2	4.667	1,490	1495
31-Dec-2010	38.1	2.059	1.5	3.559	1,127	1131
31-Jan-2011	37.5	1.28	2.1	3.38	1,054	1057

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Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-Feb-2011	37.3	1.478	2.1	3.578	1,109	1113
31-Mar-2011	38.1	0.669	6.7	7.369	2,334	2342
30-Apr-2011	38.4	0.273	7.6	7.873	2,513	2521
31-May-2011	39.3	0.158	6.4	6.558	2,142	2149
30-Jun-2011	40.4	0.354	7.1	7.454	2,503	2512
31-Jul-2011	41.1	3.17	2.8	5.97	2,040	2046
31-Aug-2011	42.1	1.986	2.1	4.086	1,430	1435
30-Sep-2011	43.8	0.339	2.8	3.139	1,143	1147
31-Oct-2011	44.9	2.363	1.1	3.463	1,292	1297
30-Nov-2011	46.1	2.31	2.1	4.41	1,690	1696
31-Dec-2011	47.4	0.445	2.4	2.845	1,121	1125
31-Jan-2012	48.5	0.016	7.8	7.816	3,151	3161
29-Feb-2012	48.7	0.455	9.6	10.055	4,070	4084
31-Mar-2012	47.2	0.017	5	5.017	1,968	1975
30-Apr-2012	46	0.884	7.2	8.084	3,091	3101
31-May-2012	45	1.766	2.5	4.266	1,596	1601
30-Jun-2012	44.1	0.339	3.9	4.239	1,554	1559
31-Jul-2012	43.6	2.173	1.9	4.073	1,476	1481
31-Aug-2012	43	2.266	1.4	3.666	1,310	1315
30-Sep-2012	41.4	2.675	1.6	4.275	1,471	1476
31-Oct-2012	40.2	0.92	8.1	9.02	3,014	3024
30-Nov-2012	38.6	1.437	13	14.437	4,632	4648
31-Dec-2012	37	0.84	8.4	9.24	2,842	2851
31-Jan-2013	36.1	0.602	9.5	10.102	3,031	3041
28-Feb-2013	35.7	0.393	11	11.393	3,381	3392
31-Mar-2013	35.7	2.848	2.1	4.948	1,468	1473
30-Apr-2013	35.6	1.58	2.9	4.48	1,326	1330
31-May-2013	35.7	0.433	8	8.433	2,503	2511
30-Jun-2013	37	3.81	2.9	6.71	2,064	2071
31-Jul-2013	37.8	2.31	2.9	5.21	1,637	1642

Attachment H

Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
31-Aug-2013	38	0.545	10	10.545	3,331	3342
30-Sep-2013	38.1	0.23	15	15.23	4,823	4839
31-Oct-2013	37.9	2.64	2.2	4.84	1,525	1530
30-Nov-2013	37.9	4.539	2.8	7.339	2,312	2320
31-Dec-2013	37.9	5.444	3.8	9.244	2,912	2922
31-Jan-2014	38.5	0.11	2.4	2.51	803	806
28-Feb-2014	38.5	5.29	3.9	9.19	2,941	2951
31-Mar-2014	38.7	3.71	6.1	9.81	3,156	3166
30-Apr-2014	40	2.871	7.2	10.071	3,349	3360
31-May-2014	41	2.64	4.5	7.14	2,433	2441
30-Jun-2014	39.9	4.241	2.7	6.941	2,302	2310
31-Jul-2014	39.6	2.669	1.6	4.269	1,405	1410
31-Aug-2014	39.4	3.237	2.1	5.337	1,748	1754
30-Sep-2014	39.2	7.363	3.2	10.563	3,442	3453
31-Oct-2014	39.4	3.493	2.4	5.893	1,930	1936
30-Nov-2014	39.5	3.11	2.2	5.31	1,743	1749
31-Dec-2014	40	3.099	4.1	7.199	2,394	2402
31-Jan-2015	39.7	3.484	4.1	7.584	2,503	2511
28-Feb-2015	39.4	2.41	5.3	7.71	2,525	2533
31-Mar-2015	39.3	1.149	5.9	7.049	2,303	2310
30-Apr-2015	38.8	1.446	4.1	5.546	1,789	1795
31-May-2015	37.4	2.062	5.6	7.662	2,382	2390
30-Jun-2015	37.4	1.323	5.3	6.623	2,059	2066
31-Jul-2015	37.1	3.08	6.2	9.28	2,862	2871
31-Aug-2015	36.7	5.16	2.8	7.96	2,428	2436
30-Sep-2015	36.6	3.311	4.3	7.611	2,316	2323
31-Oct-2015	36.2	4.686	3.5	8.186	2,463	2471
30-Nov-2015	35.8	5.96	3.2	9.16	2,726	2735
31-Dec-2015	35.2	4.91	2.1	7.01	2,051	2058
31-Jan-2016	35	0.088	3.9	3.988	1,160	1164

Attachment H

Nitrogen Data

Date	Rolling Annual Average Flow	Nitrite + Nitrate total [as N]	Nitrogen, Kjeldahl, total [as N]	Total Nitrogen	Total Nitrogen	Total Nitrogen (based on rolling annual average flow)
	Million Gallons per Day	mg/l	mg/l	mg/l	lbs/day	lbs/day
28-Feb-2016	35.5	1.51	7.1	8.61	2,541	2549
31-Mar-2016	35.3	2.379	4.5	6.879	2,018	2025
30-Apr-2016	34.5	0.935	3.2	4.135	1,186	1190
31-May-2016	34.3	2.043	2.8	4.843	1,381	1385
30-Jun-2016	33.6	0.989	3.5	4.489	1,254	1258
31-Jul-2016	33.1	0.88	5.8	6.68	1,838	1844
31-Aug-2016	33.1	1.431	3.4	4.831	1,334	1334
30-Sep-2016	32.9	4.983	6.5	11.483	3,151	3151
31-Oct-2016	32.9	1.822	4.5	6.322	1,735	1735
30-Nov-2016	32.9	0.455	4.5	4.955	1,360	1360
31-Dec-2016	32.6	0.161	2.8	2.961	805	805
Existing Permit Limit	Report	Report	Report	Report	Report	
Minimim	33.1	0.016	0	0.988	0	0
Maximum	56.33	266	15	15.23	4823	4839
Average	41.73	3.95	2.94	5.46	1846	1852
Standard Deviation	4.39	19.37	2.47	2.36	783	786
No. Measurements	186	186	183	184	186	186
No. Exceedances	NA	NA	NA	NA	NA	NA

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

This interpretative statement provides an explanation 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 are composed of municipal satellite sewage collection systems owned by one entity and treatment plants owned by another ("regionally integrated POTWs"). When issuing NPDES permits to these types of sanitary sewer systems, it is EPA Region 1's practice to directly regulate, as necessary, 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. In determining whether to include municipal satellite collection systems as co-permittees in any particular circumstances, Region 1's decision will be made by applying the law and regulations to the specific facts of the case before the Region.

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 sometimes 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 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 satellite

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[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).

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 will be subject to NPDES regulation as a point source discharger under the Act. Region 1's general practice will be to impose 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 POTW permits that include municipal satellite collection systems as co-permittees
Exhibit B	Analysis of extraneous flow trends and SSO reporting for representative systems
Exhibit C	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) In the case of a regionally integrated POTW composed of municipal satellite collection systems owned by different entities and a treatment plant owned by another, is the scope of NPDES authority limited to owners/operators of the POTW treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that convey wastewater to the POTW treatment plant?
>
> (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?

[2] The decision is available on the Board's website via the following link: http://yosemite.epa.gov/oa/EAB_Web_Docket.nsf/30b93f139d3788908525706c005185b4/34e841c87f346d94852577360068976f!OpenDocument.

(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 co-permittees 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 publicly owned treatment works ("POTWs") that include municipal satellite collection systems through a co-permittee structure. 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 will be 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 conveys domestic, industrial and commercial wastewater (and limited amounts of infiltrated groundwater and some storm water runoff) to a POTW.[3] *See* 40 C.F.R. § 35.2005(b)(37) (defining "sanitary sewer"). The purpose of these systems is 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

[3] *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.

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 other water that enters a 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 the wastewater outfall 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 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 sanitary sewer collection systems influence the performance of sewage treatment plants. When the structural integrity of a municipal 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 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.

[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).

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

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, Region 1 had generally only included the legal entity owning and/or operating the regionally centralized wastewater treatment plant as the permittee. As the permit conditions were focused on the treatment plant and its effluent discharge, a permit issued only to the owner or operator of the treatment plant was sufficient to ensure that permit conditions could be fully implemented and 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 permittee's effluent limitations, or cause overflows from the permittee's 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, 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 to include as co-permittees the contributing systems to the MWRA Clinton wastewater treatment plant ("WWTP") based on evidence provided by MWRA that its relationship with those communities would not permit it to run an effective I/I reduction program for these collection systems. Region 1 also put municipal 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 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. Additionally, these excess flows stressed POTW treatment plants from a hydraulic capacity and performance standpoint, adversely impacting effluent quality. *See Exhibit B* (Analysis of extraneous flow trends and SSO reporting 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.

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

[5] Although the Region 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. 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

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 include 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 while it required the owner/operator of the treatment plant, as the primary permittee, to comply with 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, 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.

(1) In the case of a regionally integrated POTW composed of municipal satellite collection systems owned by different entities and a treatment plant owned by another, is the scope of

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necessary to exercise its statutory authority to directly reach these facilities in order to carry out its NPDES permitting obligations under the Act.

Although the Region adopted a co-permittee structure to deal I/I problems in the municipal satellite collection systems, that decision does nothing to foreclose a permitting authority from opting for alternative permitting approaches that are consistent with applicable law. Each permitting authority has the discretion to determine which permitting approach best achieves the requirements of the Act based on the facts and circumstances before it. Upon determining that direct regulation of a satellite collection system via an NPDES permit is warranted, a permitting authority has the discretion to make the owner or operator of the collection system a co-permittee, or to cover it through an individual or general permit. Nothing in EPA regulations precludes the issuance of a separate permit to an entity that is part of the larger system being regulated. As in the pretreatment program, there are many ways to ensure that upstream collection systems are adequately contributing to the successful implementation of a POTW's permit requirements.

[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.").

NPDES authority limited to owners/operators of the POTW treatment plant, or does the authority extend to owners/operators of the municipal satellite collection systems that convey wastewater to the POTW treatment plant?

The scope of NPDES authority extends beyond the owners/operators of the POTW treatment plant to include the owners/operators of the municipal satellite collection systems conveying wastewater to the treatment plant 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).

"Publicly owned treatment works" are facilities that, when they discharge, are subject to the NPDES program. Statutorily, POTWs as a class must meet performance-based effluent limitations 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).

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 treatment plants. When a municipal satellite collection system conveys wastewater to the POTW treatment plant, the scope of NPDES authority extends to both the owner/operators of the treatment facility and the municipal satellite collection system, because the POTW is discharging pollutants.

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."

EPA has defined POTW 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. §§ 403.3(q) and 122.2.

Thus, under the CWA and its implementing regulations, wastewater treatment plants and the sewer systems and associated equipment that collect wastewater and convey it to the treatment plants fall within the broad definition of "POTW."

The statutory and regulatory definitions plainly encompass both the POTW treatment plant and municipal satellite collection systems conveying wastewater to the POTW treatment plant even if the treatment plant and the satellite collection system have different owners. Municipal satellite collection systems indisputably fall within the definition of a POTW. First, they are "sewage collection systems" under section 212(A) and "sanitary sewer systems" under section 212(B). Second, they convey wastewater to a POTW treatment plant for treatment under 40 C.F.R. § 403.3(q)). The preamble to the rule establishing the regulatory definition of POTW supports the reading that the treatment plant comprises only one portion of the POTW. *See* 44 Fed. Reg. 62260, 62261 (Oct. 29, 1979).[7] Consistent with Region 1's interpretation, courts have similarly

[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

taken a broad reading of the terms treatment works and POTW.[8] Finally, EPA has long recognized that a POTW can be composed of different parts, and that sometimes direct control is required under a permit for all parts of the POTW system, not just the POTW treatment plant segment. *See Multijurisdictional Pretreatment Programs Guidance Manual,* Office off Water (4203) EPA 833-B-94-005 (June 1994) at 19. ("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 Region's interpretation articulated here is consistent with the precepts of the pretreatment program, which pertains to the same regulated entity, i.e., the POTW.[9]

Thus, under the statutory and regulatory definitions, a satellite collection system owned by one municipality that transports municipal sewage to another portion of the POTW owned by another municipality can be classified as part of a single integrated POTW system discharging to waters of the U.S.

(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 municipally-owned sewage collection systems, that is, to the outer bound of those sewers whose purpose is to transport 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 identify 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:

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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").

[9] The fact that EPA has endorsed a co-permittee approach in addressing pretreatment issues in situations where the downstream treatment plant was unable to adequately regulate industrial users to the collection system in another jurisdiction reinforces the approach taken here.

> "..... 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 it transports wastewater for others to a POTW treatment plant for treatment. This test (i.e., common sewer installed to receive and carry waste water from others) allows Region 1 to draw a principled, predictable and readily ascertainable boundary between the POTW's collection system and the users. This test would exclude, for example, single user branch drainpipes that collect and transport wastewater from plumbing fixtures in a commercial building or public school to the common lateral sewer, just as service connections from private residential structures to lateral sewers are excluded. This type of infrastructure would not be considered part of the collection system, because it is not designed to receive and carry 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 the construction grants regulations for interpretative guidance is reasonable because these regulations at 40 C.F.R. Part 35, subpart E pertain to grants specifically 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.

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

Yes, the collection system "discharges a pollutant" because it adds pollutants to waters of the U.S. from a point source. This position is consistent with the definition of "discharge of a pollutant" at 40 C.F.R. § 122.[10] The fact that a collection system may be located in the upper reaches of the POTW and not necessarily near the ultimate discharge point at the treatment plant, or that its contribution may be commingled with other wastewater flows prior to the discharge point, 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.[11]
40 C.F.R. § 122.2 defines "discharge of a pollutant" as follows:

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[10] This position differs from that taken by the Region in the *Upper Blackstone* litigation. There, the Region stated that the treatment plant was the discharging entity for regulatory purposes. The Region has clarified this view upon further consideration of the statute, EPA's own regulations and case law and determined that a municipal satellite collection system in a POTW is a discharging entity for regulatory purposes.

[11] As explained more fully below, non-domestic contributors of pollutants to the collection system and treatment plant do not require NPDES permits because they are regulated through the pretreatment program under Section 307 of the CWA and are specifically excluded from needing an NPDES permit. 40 C.F.R. § 122.3(c).

"Discharge of a pollutant means:

(a) Any addition of any 'pollutant'' or combination of pollutants to 'waters of the United States'' from any 'point source,' or
(b) Any addition of any pollutant or combination of pollutants to the waters of the 'contiguous zone' or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation.

This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any 'indirect discharger.'"

POTW treatment plants as well as the municipal satellite collection systems that comprise portions of the larger POTW and that transport flow to the POTW treatment plant clearly add pollutants or combinations of pollutants to waters of the U.S. and to waters of the "contiguous zone" and are thus captured under sections (a) and (b) of this definition.[12]

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

No, municipal satellite collection systems that convey wastewater from domestic sources to another portion of the POTW for treatment are 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

[12] Some municipal satellite collection systems have argued that the addition of pollutants to waters of the United States from pipes, sewers or other conveyances that go to a *treatment plant* are not a "discharge of a pollutant" under 40 C.F.R. § 122.2. This is erroneous. Only one category of such discharges is excluded: indirect discharges. For the reasons explained below in section 4, the satellite system discharges at issue here are not indirect discharges. It is correct that the discharge of wastewater that does not go to the treatment works is included as a discharge under the definition. However, interpreting the *inclusion* of such discharges under the definition as categorically *excluding* the conveyance of other discharges that do go to the treatment works is not a reasonable reading of the regulation. This argument is also 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.")

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 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 by indirect dischargers."

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 a non-domestic discharger "introducing pollutants" to POTWs as defined in 40 C.F.R. § 122.2. Instead, they themselves fall within the definition of POTW, whose components consist of the municipal satellite collection system owned and operated by one POTW and a treatment system owned and operated by another POTW. Additionally, they are not a non-domestic *source* regulated under section 307(b) that introduces pollutants into a POTW within the meaning of § 403.3(i). Rather, they are part of the POTW and 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 non-domestic sources subject to section 307(b) that introduce pollutants to POTWs.

(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 fall within the definition of 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?

"Any person who discharges or proposes to discharge pollutants"… must comply with permit application requirements set forth in 40 C.F.R. § 122.21 ("Application for a Permit"), including the duty to apply in subsection 122.21(a). It is the operator's duty to obtain a permit. *See* 40 C.F.R. § 122.21(b). An operator of a sewage collection system in a regionally integrated treatment works is operating a portion of the POTW and thus can be asked to submit a separate permit application pursuant to § 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). In the Region's experience, however, sufficient information about the collection system can be obtained from the treatment plant operator's permit application. 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). Where this information is not sufficient for writing permit conditions that apply to a separately owned municipal satellite system, EPA can request that the satellite system to submit an application with the information required in 122.21(j), or alternatively use its authority under CWA section 308 to solicit the necessary information. Because Region 1 believes that it will typically receive information sufficient for NPDES permitting purposes from the POTW treatment plant operator's application, the Region will formalize its historical practice by issuing written waivers to exempt municipal satellite collection systems from permit application and signatory requirements in accordance with 40 C.F.R. § 122.21(j).[13] 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

[13] EPA may waive applications for municipal satellite collection systems, when 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. *Id.*

Section 402(a) of the CWA is 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. 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 Region imposes requirements on co-permittees when it determines that they are necessary to assure continued achievement of effluent limits based on secondary treatment requirements and state water quality standards in accordance with sections 301 and 402 of the Act, and to prevent unauthorized discharges of sewage from downstream collection systems. With respect to achieving effluent limits, the inclusion of the satellite systems as co-permittees may be necessary when 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-based or water quality-based effluent limitations due to reduction in treatment efficiency). Excess flows from an upstream collection system can also 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).

By preventing excess flows, the co-permittee requirements will also reduce water quality standards violations that result from SSOs by lessening their frequency and extent. *See Exhibit B* (Analysis of extraneous flow trends and SSO reporting 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.

Imposing standard permit conditions on the satellite communities may be necessary to give full effect to some of the standard permit conditions applicable to all NPDES permits at 40 C.F.R. § 122.41 . To illustrate, 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). If the owner or operator of a downstream POTW treatment plant is unable, due to legal constraints for example, or unwilling to ensure that upstream collection systems are implementing requirements concerning the collection system, such as I/I requirements, making the upstream POTW collection system subject to its own permit requirements may be the only or best available option to give full effect to these permit obligations.

V. Conclusion

For all the reasons above, Region 1 has determined that it is reasonable to, as necessary, directly regulate municipal satellite collection systems as co-permittees when issuing NPDES permits for discharges from regionally integrated treatment works.

Exhibit A

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. MA0101681)	August 22, 2008

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

Exhibit B

Analysis of extraneous flow trends and SSO reporting for representative systems

I. Representative POTWS

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. The CRPCD has been operating since 2001 under a permit that places requirements on the treatment plant to implement I/I reduction programs with the satellite collection systems, while SESD's existing permit does not include specific I/I requirements related to 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 1. CRPCD Daily Maximum Flow Compared to Nonexcessive I/I Standard

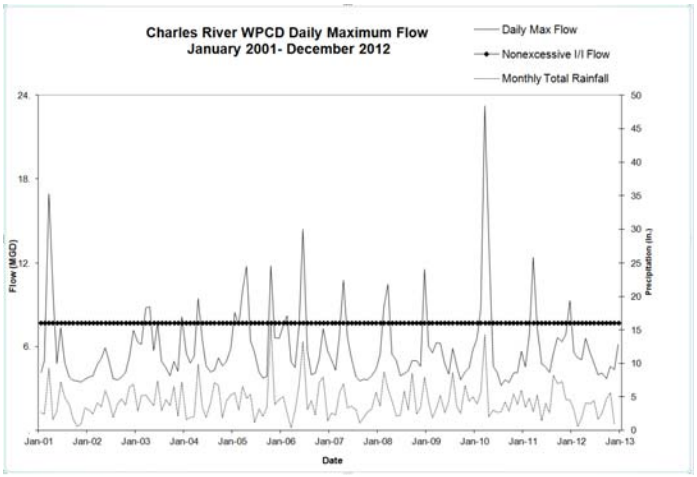
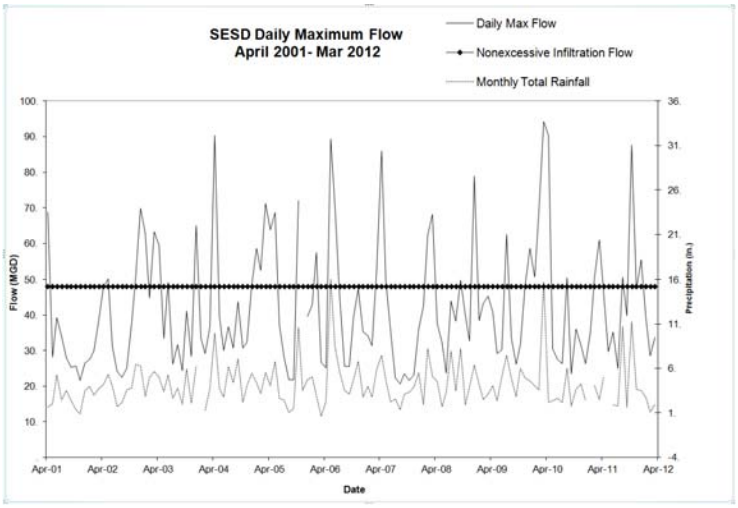


Figure 2. SESD Daily Maximum Flow Compared to Nonexcessive I/I Standard



Figures 3 and 4 shows the average 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 12 Month Average Flow Compared to Nonexcessive Infiltration Standard

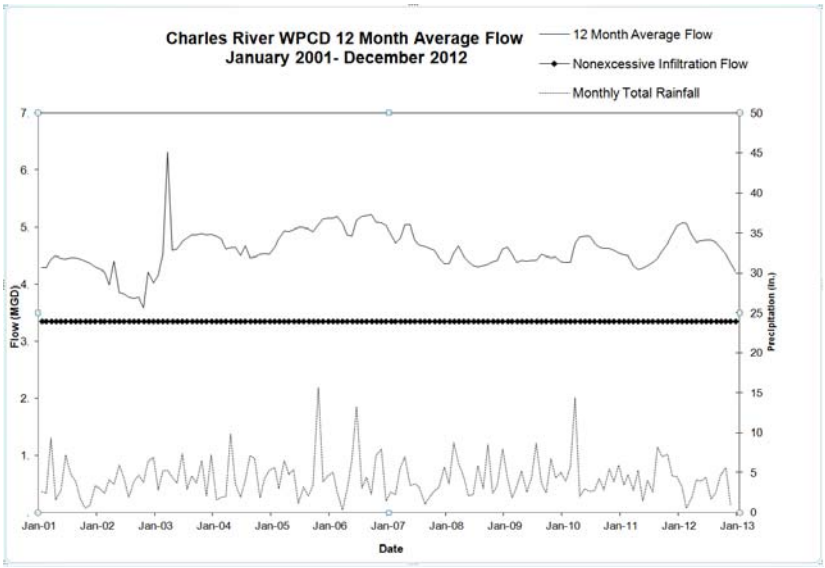
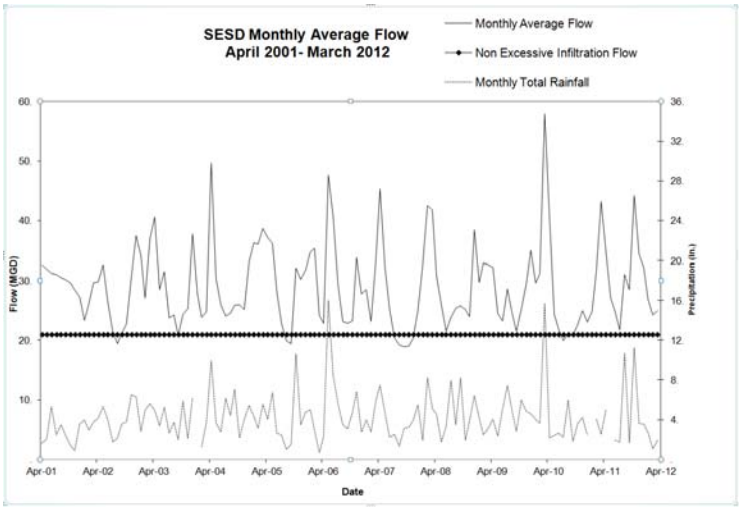


Figure 4. SESD Monthly Average Flow Compared to Nonexcessive Infiltration Standard

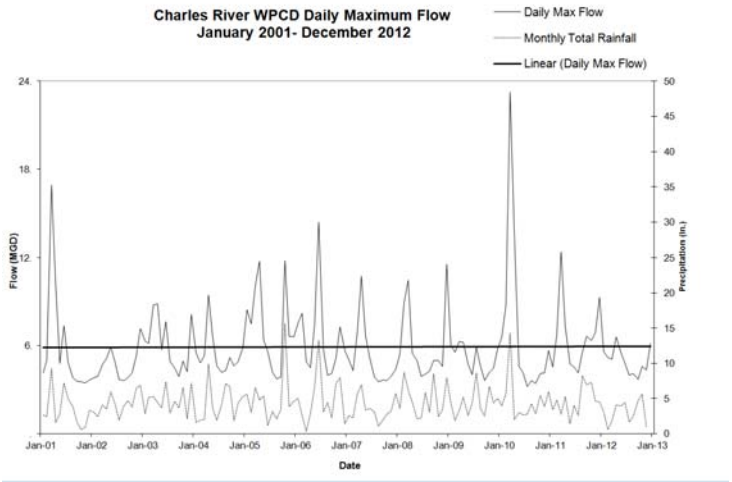


II. Flow Trends

Successful I/I reduction programs should result in decreases in wet weather flows to the treatment plant over the long term. Figures 5 and 6 show the trend in maximum daily flows since 2001. The maximum daily flow reflects the highest wet weather flow for each month. Charts are shown for both the reported maximum daily flow and for a one year rolling average of the maximum daily flow (provided to reduce the impact of seasonality on the regression results). The linear regressions indicates a weak trend over this time period of increasing maximum daily flow; while most of the variability from year to year is due to changes in precipitation, the trends are generally inconsistent with reduction in maximum daily flow over this time period. This indicates that I/I has not been reduced in either system.

Figure 5. CRPCD Daily Maximum Flow Trends

a. Reported Daily Maximum Flows



b. One Year Rolling Average of Daily Maximum Flows

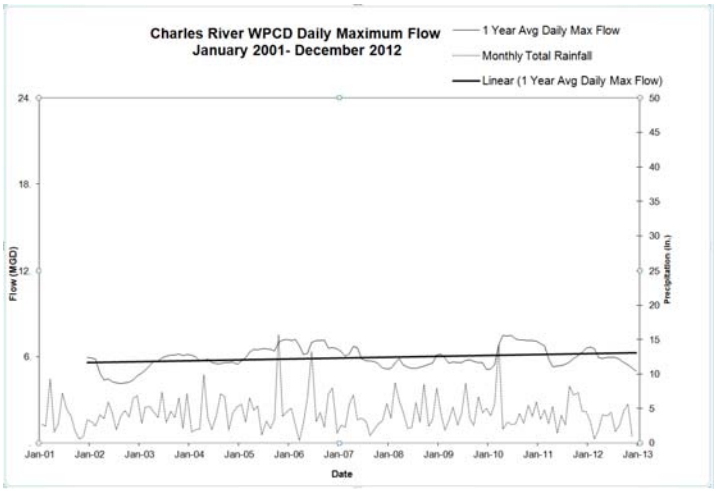
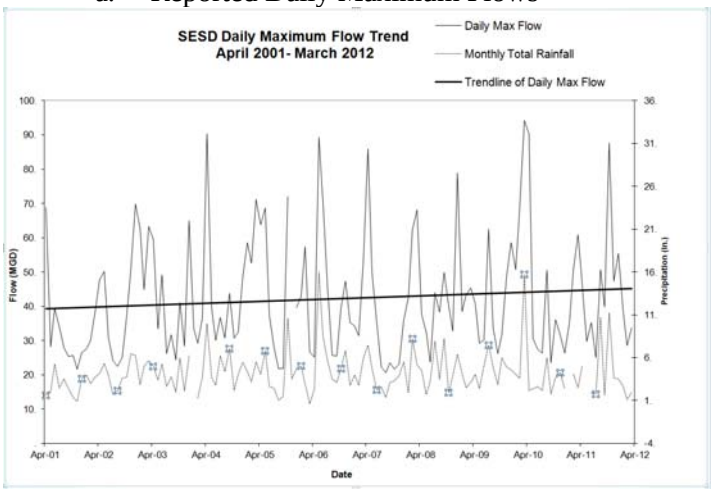
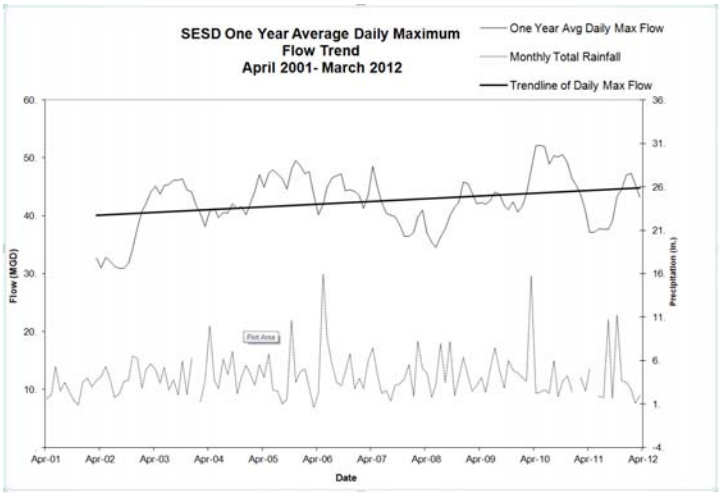


Figure 6. SESD Daily Maximum Flow Trend

a. Reported Daily Maximum Flows



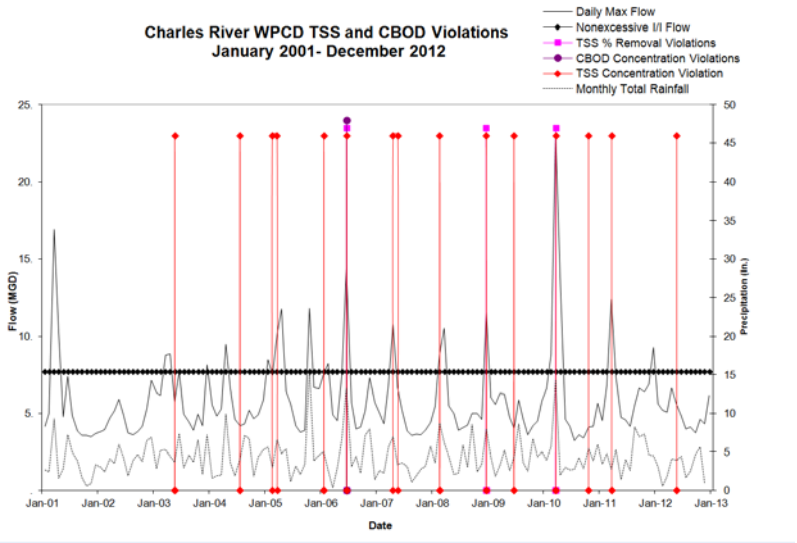
b. One Year Rolling Average of Daily Maximum Flows



III. Violations Associated with Wet Weather Flows

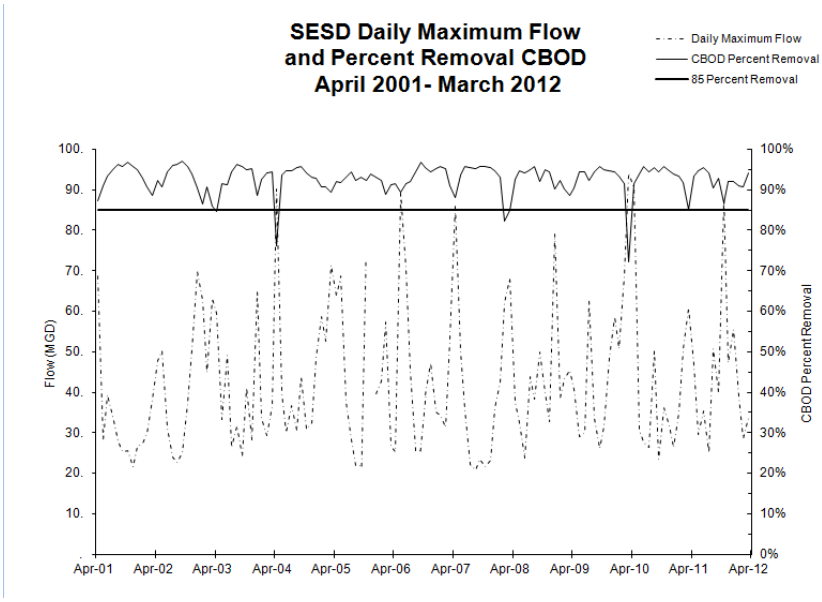
The CRPCD has experienced permit violations that appear to be related to I/I, based on their occurrence during wet weather months when excessive I/I standards are exceeded. Figure 7 shows violations of CRPCD's effluent limits for CBOD (concentration) and TSS (concentration and percent removal). Thirteen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

Figure 7. CRPCD CBOD and TSS Effluent Limit Violations



In addition, SESD has been unable to achieve the secondary treatment requirement of 85% CBOD removal, also related to I/I. Figure 8 shows SESD's results for removal of CBOD, in percentage, as compared to maximum daily flow. SESD had three months where CBOD removal fell below 85%, all during months with high maximum daily flows. While SESD's current permit requires 85% removal in dry weather, so that these excursions did not constitute permit violations, SESD's proposed draft permit does not limit this requirement to dry weather. Relief from the 85% removal requirement is allowed only when the treatment plant receives flows from CSOs or if it receives less concentrated influent wastewater from separate sewers that is not the result of excessive I/I (including not exceeding the 275 gpcpd nonexcessive I/I standard). 40 CFR § 133.103(a) and (d).

Figure 8. SESD CBOD Percent Removal



IV. SSO Reporting

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, Bellingham reported SSOs in its system between 2006 and 2009.

Exhibit C

Form of Regional Administrator's or Authorized Delegate'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 [or Authorized Delegate] 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

Attachment J

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

NOV 13 2017

Kimberly Damon-Randall
Assistant Regional Administrator
Protected Resources Division
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

Re: Reissuance of the NPDES Permit for the Springfield Regional Wastewater Treatment Facility, Agawam, Massachusetts, Permit No. MA0101613- Endangered Species Act Correspondence

Dear Assistant Regional Administrator Damon-Randall,

The U.S. Environmental Protection Agency, Region I, New England (EPA) is preparing to reissue the NPDES permit for the Springfield Regional Wastewater Treatment Facility (Springfield WWTF) located in Agawam, MA and discharging to the Connecticut River. This permit also incorporates requirements for authorized discharges from the Springfield Water and Sewer Commission's Combined Sewer Overflows (CSOs). In other words, EPA is proposing to integrate the CSO requirements formerly covered by permit no. MA0103331 into the re-issued permit for the Springfield WWTF. The Fact Sheet and Draft Permit will be on public notice on November 15, 2017 and are available for review at: https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits.

The comment period will close on December 14, 2017. The Draft Permit is intended to replace the existing NPDES permit in governing the discharges from the WWTF and CSOs. Reissuance of the NPDES permit for this facility will extend authorization for the discharges listed above for five years from the effective date of the permit. https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits This letter is to request Endangered Species Act (ESA) concurrence from your office for the reissuance of the NPDES permit for the Springfield WWTF. We have made the determination that the proposed activity may affect, but is not likely to adversely affect, any species listed as threatened or endangered, or proposed critical habitat in the Connecticut River for Atlantic sturgeon designated by NMFS under the ESA of 1973, as amended. Our supporting analysis is provided below.

Proposed Project

The Springfield WWTF is designed to treat 67 million gallons per day (MGD) of wastewater from separate and combined sewers in Agawam, MA (lat. 42.086815, long. -72.587976). The treatment process train includes mechanical screens, primary clarification, aerated biological treatment, secondary clarification, chlorine disinfection, sludge thickening and sludge dewatering.

The wastewater collection system consists of both sanitary sewers, which transport domestic, industrial, and commercial wastewater; and combined sewers, which transport domestic, industrial, and commercial wastewater plus stormwater. The WWTF processes water from eight municipalities: Agawam, Springfield, East Longmeadow, Ludlow, West Springfield, Wilbraham, and Chicopee. The total population served (based on information submitted in 2005) is about 279,000. Under normal flow conditions, wastewater is conveyed to the facility through interceptor sewers. During wet weather events in which the combined flow exceeds the hydraulic capacity of the interceptor sewer and/or the wastewater treatment plant, discharges of untreated combined sanitary wastewater and stormwater occur from the CSOs to the Connecticut, Mill and Chicopee Rivers.

The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act ("CWA"), 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 ("WQS") at 314 CMR 4.00.

Description of the Action Area

The action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50 C.F.R. §402.02). The Springfield WWTF is located on the west bank of the Connecticut River in the Town of Agawam, MA (river kilometer 122) between the Memorial and South End Bridges at the confluence of the Westfield and Connecticut Rivers, as shown in Attachment A. The WWTF discharges to the Connecticut River, while the CSOs discharge to the Connecticut River (13 CSOs), Mill River (7 CSOs), and Chicopee River (4 CSOs). Outfall 42, which is the CSO outfall located at the treatment plant, was not included on the existing CSO permit's list of outfalls; it is included here for completeness. A list of the CSOs is provided as Attachment B to this letter. All receiving waters are designated as Class B Warm Water Fisheries by the MassDEP under the Commonwealth of Massachusetts Surface Water Quality Standards (SWQS). *See* 314 CMR 4.06 Figures 6 and 8. The WWTF is located about 11 miles downstream of the Holyoke Dam. The confluence of the Chicopee River with the Connecticut River (the most upstream of the authorized discharges) is located about 6 miles downstream of the Holyoke Dam.

Sections 303(d) and 305(b) of the Clean Water Act "CWA" require that states complete a water quality inventory and develop a list of impaired waters. Specifically, section 303(d) requires states to identify those waterbodies that are not expected to meet water quality standards following the implementation of technology-based controls and, as

such, require the development of a total maximum daily load (TMDL). The Massachusetts Year 2014 Proposed Integrated List of Waters, as well as the final Massachusetts Year 2012 Integrated List of Waters, lists the segment of the Connecticut River into which the treatment plant and combined sewer outfalls discharge (Segment MA 34-05) as a Category 5 water (waters requiring a TMDL for pollutants identified as causing impairment(s)). The pollutants listed as causing the impairment(s) and requiring a TMDL are *E. coli*, total suspended solids, and PCBs in fish tissue (Massachusetts Year 2014 Integrated List of Waters (MassDEP 2014). The segment of the Mill River into which combined sewer overflow outfalls discharge is listed as a category 5 water due to impairment(s) caused by *E. coli*. The segment of the Chicopee River into which combined sewer outfalls discharge is listed as a Category 5 water due to impairment(s) caused by *E. coli*.

NMFS Listed Species (and Critical Habitat) in the Action Area

As the federal agency charged with authorizing the discharges from this facility, EPA has reviewed available habitat information developed by the Services to see if one or more of the federal endangered or threatened species of fish, wildlife, or plants may be present within the influence of the discharge. The following federally listed species may potentially inhabit (seasonally) the Connecticut River in the area of the facility discharge:

Common Name	Species Name	Status
Shortnose Sturgeon	*Acipenser brevirostrum*	Endangered
Atlantic Sturgeon	*Acipenser oxyrinchus oxyrinchus*	Threatened

In addition to the presence of these listed species, NMFS designated critical habitat for the Gulf of Maine, New York Bight, Chesapeake Bay, and South Atlantic Distinct Population Segments of Atlantic Sturgeon, which became effective on September 18, 2017. The designated critical habitat includes the Connecticut River from the mouth to the Holyoke Dam (New York Bight Unit 1 Connecticut River), which includes the action area. *See* 82 Fed. Reg. 39160 (August 17, 2017).

Atlantic Sturgeon

The Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) is a species of sturgeon distributed along the eastern coast of North America from Hamilton Inlet, Labrador, Canada to Cape Canaveral, Florida, USA. NMFS has delineated U.S. populations of Atlantic sturgeon into five distinct population segments (DPSs): the Gulf of Maine, New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs. *See* 77 Fed. Reg. 5880 (Feb. 6, 2012); 77 Fed. Reg. 5914 (Feb. 6, 2012). NMFS has listed the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs as endangered species. See 77 Fed. Reg. 5912 and 5981-82. NMFS has listed the Gulf of Maine DPS of Atlantic sturgeon as a threatened species and extended the prohibitions under section 9(a)(1) of the ESA to this DPS. *See* 77 Fed. Reg. 5911 and 78 Fed. Reg. 69,310 (Nov. 19, 2013).

The primary factors responsible for the decline of the Atlantic sturgeon DPSs include the destruction, modification, or curtailment of habitat due to poor water quality,

dredging and the presence of dams; overutilization due to unintended catch of Atlantic sturgeon in fisheries; lack of regulatory mechanisms for protecting the fish; and other natural or manmade factors including loss of fish through vessel strikes. *See* 77 Fed. Reg. at 5905, 5967.

The general distribution of Atlantic sturgeon includes the Atlantic Ocean waters and associated bays, estuaries, and coastal river systems from Hamilton Inlet, Labrador, Canada to Cape Canaveral, Florida. After emigration from the natal estuary, subadults and adults travel within the marine environment, typically in nearshore waters less than 50 meters in depth characterized by gravel and sand substrate (Stein *et al.* 2004). Spawning typically occurs in well-oxygenated flowing water upriver of the salt front of estuaries on hard substrate such as cobble, hard clay, and bedrock. *See* 82 Fed. Reg. 39162. According to the *Status Review of Atlantic Sturgeon*, Atlantic sturgeon have been documented in the Connecticut River as far as Hadley, MA but regular migration was not thought to extend beyond the significant rapids in Enfield, CT. This species tends to remain in the lower river in the range of the salt wedge. In 2006, one Atlantic sturgeon was observed in the Holyoke Dam spillway upstream of the action area; this was the only instance of an Atlantic sturgeon reported at the Holyoke Dam (NMFS 2007).

Based on the Status Review document, subadult and adult Atlantic sturgeon are unlikely to be present in the action area of this discharge. However, because individuals have been observed on rare occasions in the Connecticut River upstream of the discharge, EPA has evaluated the potential impacts to this species below.

Shortnose Sturgeon

A population of endangered shortnose sturgeon (*Acipenser brevirostrum*) occurs in the Connecticut River. The Holyoke Dam separates shortnose sturgeon in the Connecticut River into an upriver group (from Holyoke Dam to Turners Falls) and a lower river group that occurs from the Dam to Long Island Sound. According to the most recent *Biological Assessment of Shortnose Sturgeon*, the downstream segment includes a concentration of adult and juvenile shortnose sturgeon in the 2-km reach below the Dam from spring through fall (NMFS 2010). Another year-round concentration has been observed in the 9-km reach near Agawam, MA, immediately downstream the action area. This area appears to serve both as habitat for foraging during spring, summer, and fall and as a wintering site (Kynard et al. 2012). Sturgeon may also enter the tributaries. Although no shortnose sturgeon have been observed in the Chicopee or Mill Rivers, an adult shortnose sturgeon was observed in a fish trap on the Westfield River downstream of the DSI Dam in May 2007. Ongoing modifications designed to enhance upstream passage for sturgeon and downstream passage at the dam may improve connectivity of the upstream and downstream groups of shortnose sturgeon.

Early life stages (including eggs and larvae) have been captured downstream of the Holyoke Dam periodically during surveys in the mid-1980s, in 1995, and in 1998-1999; however, evidence suggests that spawning in the downstream segment is minimal (NMFS 2010). In 2005-2006, three shortnose sturgeon larvae were captured during ichthyoplankton sampling, although no early life stages were captured during surveys conducted from Hartford to Holyoke during the same period. It is unknown whether the

captured larvae were spawned downstream of the dam or the result of downstream dispersal following a rare spawning event at the Holyoke Dam. In any case, it is evident that, while rare, early life stages of shortnose sturgeon may be present in the action area.

Atlantic Sturgeon Critical Habitat

NMFS has recently designated critical habitat for Atlantic sturgeon. *See* 82 Fed. Reg. 39160 (August 17, 2017). Critical habitat is defined as the specific areas within the geographical area occupied by the species at the time it is listed on which are found those physical or biological features essential to the conservation of the species and which may require special management considerations or protections, and specific areas outside the geographical area occupied by the species at the time it is listed that are essential for the conservation of the species. *See* 16 U.S.C. 1532(5)(A) and 50 C.F.R. § 424.02(d). The physical features essential for reproduction and recruitment of Atlantic sturgeon include: hard bottom substrate for settlement of fertilized eggs, refuge, growth, and development of early life stages; aquatic habitat with gradual downstream salinity gradient of 0.5 to 30 parts per thousand and soft substrate downstream of spawning sites for juvenile foraging and development; water of appropriate depth and absent physical barriers to passage between the river mouth and spawning sites necessary to support unimpeded movement to and from spawning sites, seasonal and physiologically dependent movement of juveniles to appropriate salinity zones in the estuary, and staging, resting, or holding of subadults or spawning adults; and temperature, salinity, and oxygen values in the water that support spawning, survival, growth, development, and recruitment. *See* 82 Fed. Reg. 39161.

Based on the Status Review document, Atlantic sturgeon are unlikely to be present in the action area of this discharge. However, designated critical habitat for the New York Bight designated population segment (DPS) includes the Connecticut River from the Holyoke Dam downstream for 140 river kilometers to the mouth of the river where it discharges to Long Island Sound. The designated critical habitat encompasses the action area.

Effects Determination

Effects of this action on Atlantic sturgeon, shortnose sturgeon, and designated critical habitat for Atlantic sturgeon primarily include water quality impacts as a result of discharges of sanitary wastewater from the WWTF and untreated combined sanitary wastewater and stormwater from CSOs during wet weather. The effluent is unlikely to affect physical features essential to the conservation of the species, including the substrate, water depth, and fish passage.

The Draft Permit includes water quality-based effluent limitations on all pollutants for which the WWTF has a reasonable potential to cause, or contributes to, an exceedance of water quality standards in the receiving water. Water quality-based effluent limitations are established using available dilution at the 7Q10 low flow value, as required by state water quality standards (314 CMR 4.03(3)). For the Springfield WWTF, effluent limitations on total residual chlorine are based on a dilution factor of

25 calculated using the design flow of the WWTF (67 MGD) and a 7Q10 low flow in the Connecticut River at Outfall 041 of 2,435 cfs. The Draft Permit limits on biochemical oxygen demand and total suspended solids are consistent with the technology-based standards for secondary treatment for the protection of dissolved oxygen in the receiving waters. The Draft Permit also includes a numeric limit for acute toxicity ($LC_{50} \geq 100\%$).

EPA expects that this whole effluent toxicity requirement will ensure protection of aquatic life in the vicinity of the discharge, including from the cumulative effects of any constituents in the effluent. The effluent limits and permit conditions in the Draft Permit will ensure that the permitted activity will not change water quality in any significant way, that is, any effect are unable to be meaningfully measured, detected, or evaluated. In addition, the permitted activity is unlikely to affect the ability of critical habitat to support spawning, survival of any life stage, or larval, juvenile, or subadult growth, development, or recruitment.

Biochemical Oxygen Demand

Biological oxygen demand (BOD_5) measures the amount of oxygen used by aerobic microorganisms in the water column in order to approximate the availability of dissolved oxygen for fish, invertebrates, and other aerobic aquatic organisms. TSS and BOD_5 have the potential to affect dissolved oxygen concentrations in the vicinity of and downstream from the facility's outfall. The Massachusetts Surface Water Quality Standards for Class B Inland Water Classes (which includes the Connecticut River) require that dissolved oxygen levels shall not be less than 5.0 mg/l.

The Draft Permit includes the same BOD_5 limits as in the current permit, which are based on the secondary treatment requirements set forth at 40 C.F.R. §§ 133.102(a)(1), (2), (4) and 40 C.F.R. § 122.45(f). The mass-based limitations for BOD_5 are based on a 67 MGD design flow. The monitoring frequency is once per day.

EPA has determined that these effluent limits are sufficient to ensure that discharges from this facility do not cause an excursion below the Massachusetts Water Quality Standard, which requires that Class B waters attain a minimum DO saturation of 5.0 mg/l. Studies indicate that the average sensitivity of sturgeons to hypoxia is more than other fishes, and that hypoxic conditions impair respiratory metabolism, foraging activity, growth, and survival (Secor and Niklitschek 2002, Cech and Doloshov 2004, Niklitschek and Secor 2009). NMFS indicates that shortnose sturgeon are adversely affected upon exposure to dissolved oxygen levels below 5.0 mg/L (EPA 2004). In setting dissolved oxygen criteria for Chesapeake Bay, NMFS concurred with EPA that the instantaneous minimum dissolved oxygen criteria of 5 mg/L would protect spawning and migratory shortnose sturgeon and improve the chances for recovery of the Chesapeake Bay population (EPA 2004). The Final Rule for Atlantic Sturgeon Designated Critical Habitat identifies 6.0 mg/L or greater DO to support juvenile rearing habitat, however, the effects of the discharge are likely to be discountable because the juvenile stage is typically in brackish waters of the natal estuary, well downstream of the action area. *See* 82 Fed. Reg. 39161-62.

The BOD_5 criteria, which are established to ensure that the DO level will not be less than the Massachusetts water quality standard of 5.0 mg/L for Class B waters, will be protective of Atlantic sturgeon and shortnose sturgeon and critical habitat in the Connecticut River. As a result, the effluent will have an insignificant effect on Atlantic and shortnose sturgeon.

Total Suspended Solids

TSS may affect aquatic life by directly killing them, reducing growth rates, reducing resistance to disease, preventing the development of fish eggs and larvae, by altering natural migration and movement patterns, and by reducing their ability to forage or limiting the food supply (EPA 1976). The Draft Permit proposes the same TSS limits as in the current permit, which are based on the secondary treatment requirements set forth at 40 C.F.R. §§ 133.102(a)(1), (2), (4) and 40 C.F.R. § 122.45(f). The secondary treatment limitations are a monthly average TSS concentration of 30 mg/l and a weekly average concentration of 45 mg/l. The Draft Permit also requires the permittee to report the maximum daily TSS value each month. The mass-based limitations for TSS are based on a 67 MGD design flow. The monitoring frequency is once per day.

Studies of the effects of turbid waters on fish suggest that concentrations of suspended solids can reach thousands of milligrams per liter before an acute toxic reaction is expected (Burton 1993). The studies reviewed by Burton demonstrated lethal effects to fish at concentrations greater than 580 mg/L to 700,000 mg/L, depending on species. Sublethal effects have been observed at substantially lower turbidity levels. For example, prey consumption was significantly lower for striped bass larvae tested at concentrations of 200 and 500 mg/L compared to larvae exposed to 0 and 75 mg/L (Breitburg 1988 *in* Burton 1993). Studies with striped bass adults showed that pre-spawners did not avoid concentrations of 954 to 1,920 mg/L to reach spawning sites (Summerfelt and Moiser 1976 and Combs 1979 *in* Burton 1993). While there have been no directed studies on the effects of TSS on sturgeon, shortnose sturgeon have been documented in turbid water in the juvenile and adult stage. Dadswell et al. (1984) reports that shortnose sturgeon are more active under lowered light conditions, such as those in turbid waters. As such, sturgeon species are assumed to be as least as tolerant to suspended sediment as other estuarine fish such as striped bass.

TSS may also indirectly affect sturgeon through impacts on prey species. For instance, benthic invertebrates may experience reductions in species diversity, survival, reproduction, and an increase in mortality when exposed to high concentrations of suspended solids over long time periods. However, most of the concentrations under which these impacts were observed were well above 45 mg/L, which is the maximum daily effluent limit for TSS in the Draft Permit (Bilotta and Brazier 2008). The TSS limits in the Draft Permit will likely ensure that prey species of sturgeon are not impacted by the discharge, and indirect effects to sturgeon as a result will be insignificant.

There is little research on the effects of suspended solids on shortnose sturgeon eggs and larvae. However, studies of other species suggest that these early life stages may be more sensitive to suspended solids than adults and juveniles. Auld and Schubel (1978)

observed that concentrations of up to 1,000 mg/L had no significant effect on percent hatched for blueback herring, alewife, American shad, and yellow perch eggs, while striped bass and white perch eggs tolerated exposures of up to 500 mg/L TSS without a significant effect on hatching. Striped bass and yellow perch larval survival was significantly affected at concentrations of 500 mg/L, while American shad larval survival was significantly affected at TSS concentrations of 100 mg/L. Kiørboe et al. (1981) found no effect of chronic concentrations of suspended silt up to 300 mg/L on embryonic development of herring eggs (*Clupea harengus*). In comparison, the maximum daily TSS concentration authorized in the Draft Permit is 45 mg/L, which is well below the concentrations found to affect early life stages. The authorized discharge of TSS from the facility is also unlikely to affect the temperature, salinity, or oxygen values to support spawning, survival, growth, development, or recruitment.

EPA has made the preliminary determination that the effluent from this facility is likely to have an insignificant effect on Atlantic sturgeon and shortnose sturgeon as well as critical habitat for Atlantic sturgeon.

Percent Removal of BOD_5 and TSS

Percent removal requirements are also included in the secondary treatment standards of 40 C.F.R. § 133.102, requiring a minimum of 85% percent removal for BOD_5 and TSS on an average monthly basis. However, combined sewer systems may receive case-by-case consideration because they may not be capable of meeting the percentage removal requirements during wet weather where the treatment works receive flows from combined sewers (*i.e.*, sewers which are designed to transport both storm water and sanitary sewage). *See* 40 C.F.R. § 133.103(a). The Regional Administrator or State Director (if appropriate) may substitute a lower percent removal requirement less than 85% or a mass loading limit for percent removal requirements. *See* 40 C.F.R. § 133.103(e).

In this case, the current permit had suspended the 85% removal requirement during all conditions. The Draft Permit reinstates the 85% removal requirement during dry weather because data reported over the past 5 years indicates that the treatment works would have consistently met the percent removal requirements on an average monthly basis. The Draft Permit continues to suspend the percent removal requirements during wet weather. EPA believes that establishing percent removal requirements for BOD_5 and TSS during dry weather, in combination with the technology-based limits consistent with secondary treatment requirements, will ensure that the effluent from the WWTF is likely to have an insignificant effect on Atlantic and shortnose sturgeon and critical habitat.

pH

The Draft Permit includes pH limitations which 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. The water quality-based numeric effluent limitations for pH in the

Draft Permit are likely to protect water quality and will have an insignificant effect on Atlantic sturgeon and shortnose sturgeon as well as designated critical habitat.

Bacteria

Escherichia coli bacteria is an indicator of the presence of fecal wastes from warm-blooded animals. As this bacteria is often associated with viruses and other pathogens, the primary concern regarding elevated levels of these bacteria is for human health and exposure to pathogen-contaminated recreational waters. Fecal bacteria, such as *E. coli*, are associated with fecal matter, which is known to contain nutrients that support plant and animal growth. Algae and other organisms which utilize these nutrients can lower dissolved oxygen levels under certain environmental conditions (particularly warm water conditions). While fecal bacteria are not known to be toxic to aquatic life, elevated levels of these bacteria are indicative of water quality problems including lowered dissolved oxygen levels.

The Draft Permit's proposed limits are in accordance with the Massachusetts State Water Quality Standards for Class B Inland Waters: average monthly limit equal to a geometric mean of 126 colonies per 100 ml and an instantaneous maximum daily limit of 409 colonies per 100 ml. *See* 314 CMR 4.05(3)(b)(4)(b). Monitoring is required five times per week from April 1 through October 31.

The bacterial limits set for in the Draft Permit are designed to protect human health and also to insure that dissolved oxygen criteria are met in the receiving water body. As indicated above, the monthly dissolved oxygen level set for this receiving water (5.0 mg/L) is protective of shortnose sturgeon. As such, EPA has made the preliminary determination that the bacteria limits proposed in the Draft Permit are not likely to adversely affect shortnose sturgeon, critical habitat, or contribute to an excursion above water quality criteria set for this portion of the Connecticut River.

Total Residual Chlorine

The Springfield WWTF uses chlorination and dechlorination of secondary effluent. Chlorine can be toxic to aquatic life. In an analysis of exposure of 33 freshwater species in 28 genera, acute effect concentrations ranged from 28 µg/L for *Daphia magna* to 710 µg/L for the threespine stickleback (EPA 1986). The acute and chronic water quality criteria for chlorine defined in the 2002 EPA National Recommended Water Quality Criteria for freshwater are 13 µg/l and 7.5 µg/l, respectively. Both the nationally recommended acute and chronic criteria are set well below the minimum effect values observed in any species tested. As the water quality criteria levels have been set to be protective of even the most sensitive of the 33 freshwater species tested, EPA has judged that the criteria are also likely to be protective of shortnose sturgeon.

Given these criteria and a dilution factor of 25, the Draft Permit includes a maximum daily limit of 0.46 mg/l and average monthly limit of 0.26 mg/l for total residual chlorine. Sampling frequency is five times per week and the limits apply year-round when chlorine is in use. EPA expects that the water quality-based numeric limits are

protective of aquatic life and chlorine in the effluent will have an insignificant effect on Atlantic sturgeon, shortnose sturgeon, and designated critical habitat.

Metals

The release of metals into surface waters from anthropogenic activities such as discharges from municipal wastewater treatment facilities can result in their accumulation to levels that are highly toxic to aquatic life. EPA analyzed the available effluent and receiving water metals data from WET testing data collected from 2009 through 2014 to determine whether various metals "are or may be discharged at a level that causes, has reasonable potential to cause, or contributes to an excursion above" water quality standards. 40 C.F.R. § 122.44(d)(1)(i). The applicable water quality criteria for metals are the EPA National Recommended Water Quality Criteria 2002, which have been incorporated into the Massachusetts SWQS, 314 CMR 4.05 (5)(e).

As described in the Fact Sheet (at 14-16), based on the 95th percentile of the distribution of effluent data and the median upstream concentrations, there is no reasonable potential (for either acute or chronic conditions) that the discharge of metals will cause or contribute to an exceedance of the applicable water quality criteria. The Draft Permit establishes quarterly whole effluent toxicity (WET) testing requirements and includes an acute toxicity limit (LC_{50}) of greater than or equal to 100% survival as well as monitoring for lead, aluminum, copper, cadmium, nickel, and zinc. The quarterly WET limit and effluent monitoring requirements will likely ensure that the effluent is protective of aquatic life and as such, will have an insignificant effect on Atlantic sturgeon, shortnose sturgeon, and designated critical habitat.

Nitrogen

EPA has determined that excessive nitrogen loadings into the Connecticut River and tributaries are causing significant water quality issues in Long Island Sound which is located approximately 75 miles downstream from the facility. Nitrogen causes impairment via excessive primary productivity and while is not known to be directly toxic to aquatic life, elevated nitrogen levels are associated with eutrophication and indicative of water quality problems that may include lowered dissolved oxygen levels. These indirect impacts may affect sturgeon in the action area.

In December 2000, the Connecticut Department of Environmental Protection (CT DEP) completed a Total Maximum Daily Load (TMDL) for addressing nitrogen-driven eutrophication impacts in Long Island Sound. The TMDL included a Waste Load Allocation (WLA) for point sources and a Load Allocation (LA) for non-point sources. The point source WLA for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25% reduction from the baseline total nitrogen loading estimated in the TMDL. *See* A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound (CT DEP 2000). The overall TMDL target of a 25 percent aggregate reduction from baseline loadings to the Connecticut River above the Massachusetts-Connecticut border is currently being met.

EPA has determined that, because the TMDL limit is being met for the Connecticut River at the Massachusetts/Connecticut state line, an effluent limitation on nitrogen discharges from the Springfield WWTF is not required at this time. However, the Draft Permit increases the monitoring frequency from monthly to weekly to provide an improved baseline for assessing optimization of nitrogen removal and ensure that excessive nitrogen loading is prevented. The Draft Permit also requires the WWTF to continue optimizing operations for nitrogen.

Ammonia can be toxic to aquatic life and is also an oxygen-demanding pollutant whose biological decomposition may cause reduced dissolved oxygen concentrations in the receiving water. EPA also evaluated if the effluent had a reasonable potential to cause or contribute to an exceedance of the acute or chronic ammonia water quality criteria under both summer and winter conditions (Fact Sheet pp. 18-20). Using the 7Q10 low flow value (which is more stringent than the 30Q10 flow that EPA recommends using for the analysis but which was not available for the receiving water), the projected downstream ammonia concentrations in the summer and winder periods are 0.29 and 0.45 mg/l, respectively. Even under the more conservative assumption using 7Q10 flow, these values are less than the acute criteria of 26.7 mg/L, the summer chronic criteria of 3.14 mg/L, and the winter chronic criteria of 6.17 mg/L. Therefore, reasonable potential does not exist for the discharge of ammonia from the facility to cause or contribute to a violation of water quality standards.

Weekly monitoring of total nitrogen, total ammonia nitrogen, total nitrate+nitrite, and total kjeldahl nitrogen, coupled with optimizing operations to further reduce nitrogen loading to the Connecticut River, will likely ensure that the WWTF is not discharging nitrogen at a level that could impact dissolved oxygen levels that may affect shortnose sturgeon or designated critical habitat. EPA expects that these requirements will likely be protective of aquatic life and as such, the discharge of nitrogen will have an insignificant effect on Atlantic sturgeon, shortnose sturgeon, and designated critical habitat.

Combined Sewer Overflows

CSOs are point sources subject to NPDES permit requirements for both water-quality based and technology-based requirements but are not subject to the secondary treatment regulations applicable to publicly owned treatment works in accordance with 40 CFR §133.103(a). Section 301(b)(1)(C) of the Clean Water Act of 1977 mandated compliance with water quality standards by July 1, 1977. Technology-based permit limits must be established for best conventional pollutant control technology (BCT) and best available technology economically achievable (BAT) based on best professional judgment (BPJ) in accordance with Section 301(b) and Section 402(a) of the Water Quality Act Amendments of 1987 (WQA). The framework for compliance with Clean Water Act requirements for CSOs is set forth in EPA's National CSO Control Policy, 59 Fed. Reg. 18688 (1994).

The treatment facility's sewer collection system consists partially of combined sewers that convey both sanitary sewage and stormwater runoff during rain events. During wet

weather, the combined flow exceeds the capacity of the interceptor sewers and the wastewater treatment plant, and a portion of the combined flow is discharged to the Connecticut, Chicopee, and Mill Rivers through combined sewer overflows (CSOs). The system currently has 24 CSO outfalls where the CSOs discharge to receiving waters. A complete list of CSOs has been included as Attachment A to this letter. In 2014, the system had combined overflows of 378 million gallons, as well as discharges of 121 million gallons of partially treated sewage from the treatment plant. CSOs have been identified as a significant source of pollution to the Connecticut and Chicopee Rivers. See the Massachusetts Department of Environmental Protection's 2003 Connecticut River and 2003 Chicopee River Water Quality Assessments.

Coverage for discharges from the CSOs was provided by EPA to the City of Springfield in 1995 (Permit No. MA010333) because, at that time, the city owned and operated both the sewer system and the treatment facility. The Springfield Water and Sewer Commission (SWSC) was established in 1996 and subsequently took over ownership of both the treatment facility and the CSOs in the City of Springfield. Ownership of the satellite collection systems remained with their respective municipalities. For re-issuance of this permit, EPA has proposed combining the permit covering CSO discharges (MA010333) with this individual permit for the Springfield WWTF (MA0101613), both of which are owned and operated by the SWSC. The six municipalities that operate CSOs covered under this permit have been included as co-permittees.

The CSO Policy recommends that each community that has a combined sewer system develop and implement a long-term CSO control plan ("LTCP") that will ultimately result in compliance with the requirements of the CWA. The Commission submitted a Draft Long Term Control Plan Phase I Program in 2000, and a revised draft LTCP in May 2012. The plan has not been completely approved. The SWSC is currently operating under federal administrative orders (latest being Administrative Order Docket No. 14-007 issued September 2014), requiring various projects to reduce or eliminate CSO discharges.

When the capacity of the combined sewer collection system has been exceeded, subsequent overflows are released from CSOs into the Connecticut, Chicopee, and Mill Rivers. When these discharges occur, the receiving waters are running at high flows and volumes as a result of the storm event. TSS and bacteria are primary constituents of CSO discharges. The monthly mean streamflow of the Connecticut River (based on 10 years of record at USGS Gage 01172010 at I-391 Bridge in Holyoke, MA) ranges from 8,630 cfs in September to 36,800 cfs in April with a minimum mean flow of 2,884 cfs in September 2007. The monthly mean streamflow of the Chicopee River (based on 86 years of record at USGS Gage 01177000 at Indian Orchard, MA) ranges from 462 cfs in August to 1,830 cfs in April with a minimum mean flow of 176.5 cfs in August 1950. The USGS Gage 01178000 (Mill River at Springfield, MA) is no longer active, but based on streamflow records from 1938 to 1951, the mean daily streamflow at this gage was 43 cfs with a maximum daily flow of 306 cfs.

Streamflow increases during storm events and equates to potentially high dilution factors. A relatively high dilution factor during storm events, which is the only time

that CSOs would be discharging, will help to ensure that water quality criteria are met and dissolved oxygen levels are not reduced. CSO discharges are subject to specific conditions of the Draft Permit, including:

- Dry weather discharges from CSO outfalls are prohibited
- During wet weather, the discharges must not cause any exceedance of water quality standards. Wet weather discharges must be monitored and reported as specified in the permit.
- The permittee shall meet the technology-based nine minimum controls, set forth in the Fact Sheet, complying with the implementation levels as set forth in Part I.B.3 of the Draft Permit.
- The permittee shall submit updated documentation on its implementation of the Nine Minimum Controls within 6 months of the effective date of the permit, and shall provide an annual report on monitoring results from CSO discharges and the status of CSO abatement projects by April 30 of each year.

Conclusions

EPA has made the preliminary determination that the effluent limitations and conditions in the Draft Permit will be protective of aquatic life, including shortnose sturgeon, Atlantic sturgeon, and designated critical habitat. Based on the analysis that all effects of the proposed action will be insignificant, we have determined that the reissuance of the Springfield WWTF NPDES permit is not likely to adversely affect any listed species or critical habitat under NMFS' jurisdiction. A more detailed analysis of the effluent limitations summarized above is provided in the Fact Sheet. During the public comment period, EPA has provided a copy of the Draft Permit and Fact Sheet to both NMFS and USFWS. We request your concurrence with this determination.

Sincerely,

David M. Webster

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cc: Christine Vaccaro, NMFS

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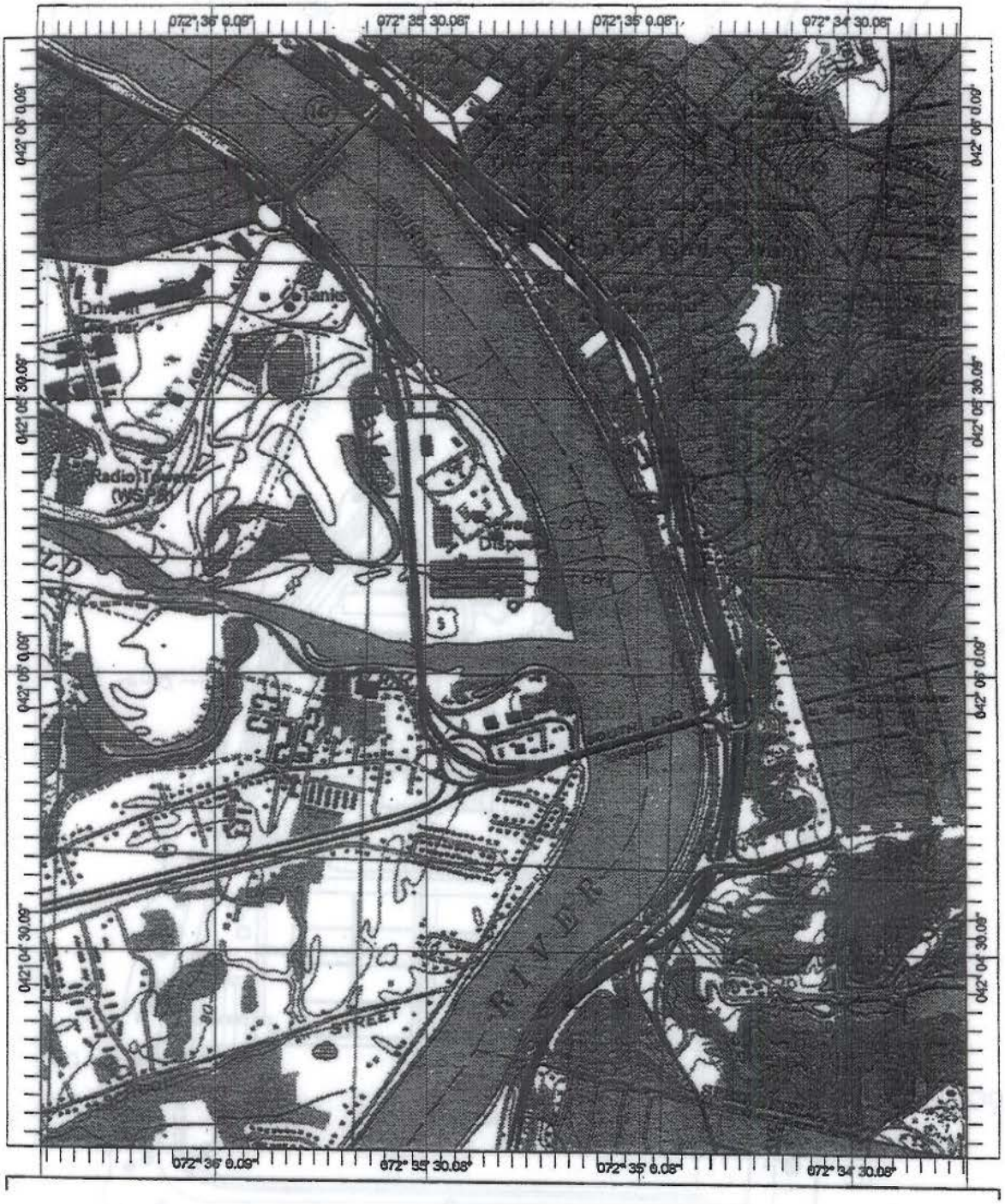
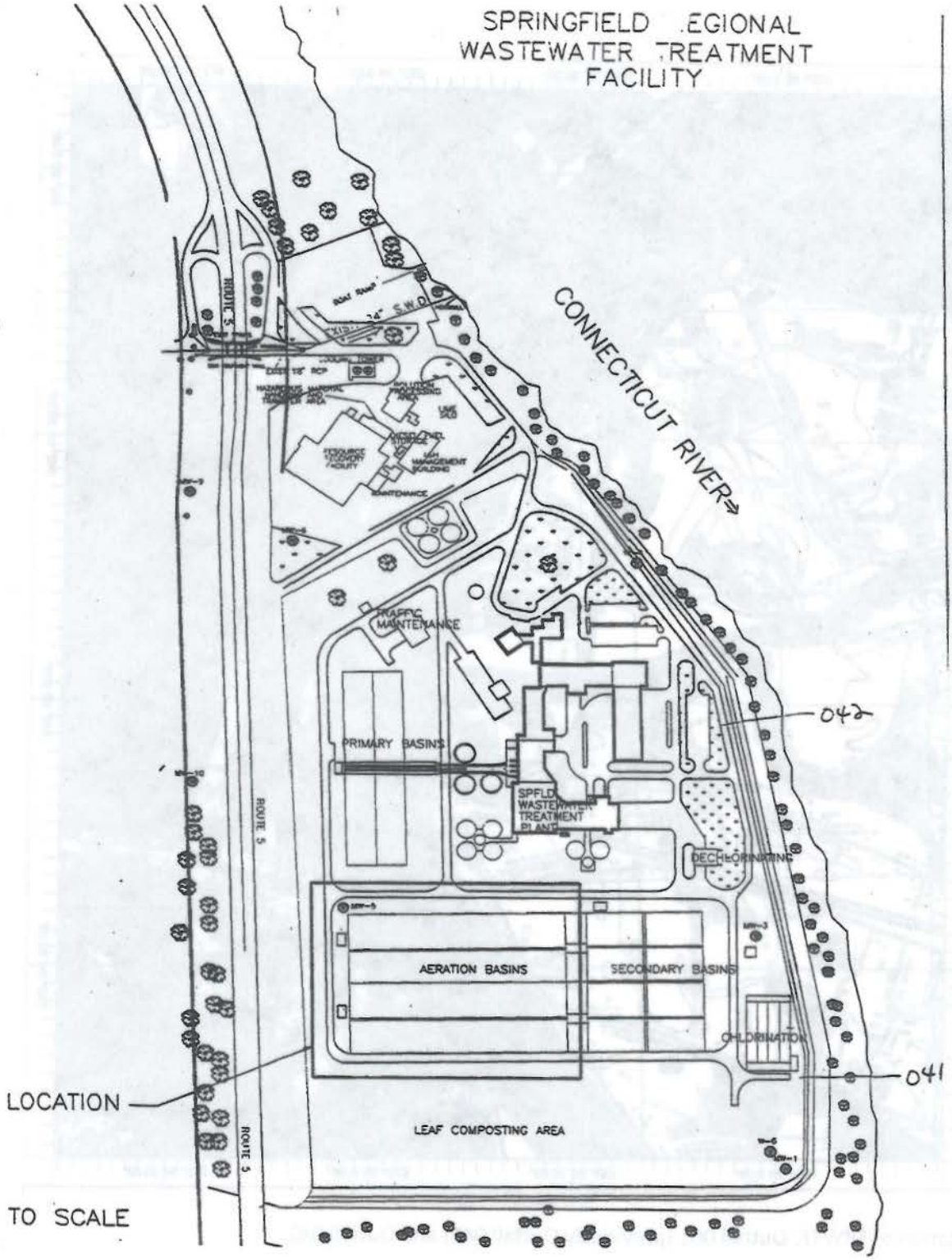
Attachment A
Site Location



Location of SRWTF, Outfall 001 (previously Outfall 041) and Outfall 042

Attachment A
Site Location



Location of SRWTF, Outfall 001 (previously Outfall 041) and Outfall 042

Attachment B

CSO overflow events, and volume (in 1,000's of gallons), as reported by SWSC

	2012		2013		2014		2015		2016	
Outfall	Number	Volume	Number	Volume	Number	Volume	Number	Volume	Number	Volume
7	2	0.3	1	83	2	941	6	550	3	450,773
8	37	65,573	7	20,903	0	0	11	14,446	2	380,020
10	32	43,179	37	74,458	47	77,494	34	48,446	36	34,047,622
11	41	86,026	4	68	4	475	1	0	4	208783
12	34	46,730	47	194,448	53	143,896	32	94,150	17	44,169,891
13	17	9,784	26	12,852	53	18,302	39	5,316	19	13,062,740
14	22	4,573	38	16,018	35	10,215	38	15,568	39	9,357,306
015A	42	9986	31	11,302	27	11,966	26	5,828	18	4,874,542
015B	0	0	9	379	11	844	6	83	1	3136
16	33	53,783	35	85,782	40	74,421	23	21,727	32	40,031,958
18	12	756	16	768	14	735	15	317	7	455784
49	13	1,639	15	1,873	25	2,486	24	4,104	11	482,649
17	13	1,635	22	1,779	18	2,616	17	1,404	7	67,851
19	17	18,650	7	8,258	9	2,150	4	8,857	3	1,142,252
24	9	448	7	1,258	9	392	7	254	1	21,126
25	11	1,241	18	2,231	18	1,342	10	534	13	1,377,830
45	15	268	24	696	19	1,545	12	670	6	1,491
46	20	1,813	23	2,425	18	3,316	10	1,293	6	618,669
48	10	4,957	12	530	16	1,319	15	6,355	11	439,059
34	14	1,648	21	4,848	21	1,278	12	841	10	61,447
35	22	2,146	11	1,754	11	2,462	10	726	5	337,987
37A	22	461	9	1,342	10	601	8	392	12	226,657
36A	24	3,680	14	3,160	17	3,485	14	2,310	5	1,327,395
042 at WWTF	10	5,532	11	4,307	16	16,313	12	6,878	8	6,435,000
CSO Total	472	361,510	445	451,522	493	378,594	386	241,049	276	159,581,968
WWTF Bypass	19	41,285	30	91,875	31	121,040	19	51,562	1	6,771,000

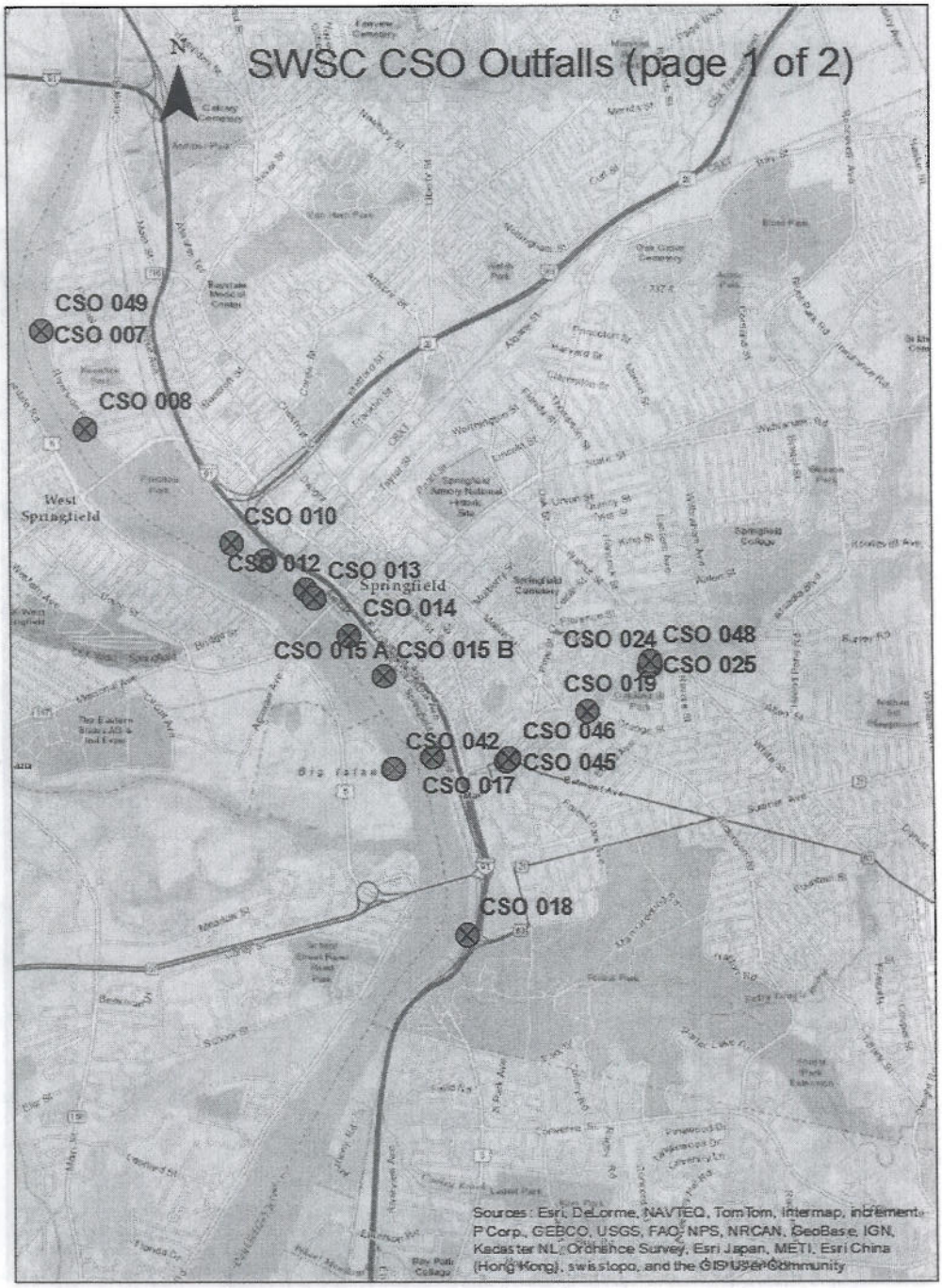
Attachment B

CSO Outfalls Locations and Volumes

Outfall No.	Location	Latitude Longitude
To Connecticut River		
007	Rowland St.	42° 12' 72° 62'
008	Washburn St. 4	42° 11' 72° 62'
010	Clinton St.	42° 10' 72° 60'
011	Liberty St.	42° 10' 72° 59'
012	Worthington St.	42° 10' 72° 59'
013	Bridge St.	42° 10' 72° 59'
014	Elm St.	42° 10' 72° 59'
015A	Union St.	42° 10' 72° 59'
015B	Union St.	42° 10' 72° 59'
016	York St.	42° 09' 72° 59'
018	Longhill St.	42° 06' 72° 58'
049	Springfield St.	42° 10' 72° 62'
042	Bondi Island Treatment Plant	
To Mill River		
017	Fort Pleasant (Blake Hill)	42° 09' 72° 58'
019	Mill, Orange, & Locust Sts.	42° 09' 72° 57'
024	Rifle & Central Sts.	42° 10' 72° 56'
025	Allen & Oakland Sts.	42° 10' 72° 56'
045	Fort Pleasant Ave.	42° 06' 72° 58'
046	Belmont St.	42° 06' 72° 58'
048	Allen & Rifle Sts.	42° 10' 72° 56'
To Chicopee River		
034	Main St.	42° 16' 72° 51'
035	Front & Oak Sts.	42° 16' 72° 50'
036A	Pinevale & Water Sts.	42° 16' 72° 50'
037	Cedar St. 4	42° 16' 72° 50'

Attachment B

Attachment B



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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF ECOSYSTEM PROTECTION
REGION I
BOSTON, MASSACHUSETTS 02203

JOINT PUBLIC NOTICE OF A 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: November 15, 2017 – December 14, 2017

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-004-18

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
Agawam, MA 01001

RECEIVING WATER: Connecticut River, Chicopee River and Mill River

RECEIVING WATER CLASSIFICATION: Class B – Warm Water Fishery

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency, (EPA) and the Massachusetts Department of Environmental Protection (MADEP) have cooperated in the development of a permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally 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 DRAFT PERMIT:

A fact sheet or a statement of basis (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) may be obtained at no cost by writing or calling EPA's contact person named below:

Meridith Timony
US EPA
5 Post Office Square
Suite 100
Boston, MA 02109-3912
Telephone: (617) 918-1533

The administrative record containing all documents relating to this draft permit is on file and 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 this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by December 14, 2017, to the U.S. EPA, 5 Post Office Square, Suite 100, Boston, Massachusetts 02109-23912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency 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 AND APPEALS:

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. Within 30 days following the notice of the final permit decision any interested person may submit a request for a formal hearing to reconsider or contest the final decision.

LEALDON LANGLEY, DIRECTOR
MASSACHUSETTS WETLANDS
AND WASTEWATER
PROGRAMS
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

LYNNE HAMJIAN, ACTING DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
UNITED STATES ENVIRONMENTAL
PROTECTION AGENCY – REGION 1

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 **REOPENING OF THE PUBLIC COMMENT PERIOD** AND PUBLIC NOTICE OF A **PUBLIC MEETING AND PUBLIC HEARING** PERTAINING TO THE ISSUANCE OF A **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, AS AMENDED, AND UNDER SECTIONS 27 AND 43 OF THE MASSACHUSETTS CLEAN WATERS ACT, AS AMENDED.

DATE OF PUBLIC NOTICE PERIOD: March 14, 2018 – April 27, 2018

PERMIT NUMBER: MA0101613

PUBLIC NOTICE NUMBER: MA-011-2018

NAME AND MAILING ADDRESS OF APPLICANT:

Springfield Water and Sewer Commission
P.O. Box 995
Springfield, MA 01101-0995

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

Springfield Regional Waste Water Treatment Facility and from 24 Combined Sewer Overflow Outfalls (CSOs)
Route 5 Bondi Island
Agawam, MA 01001

RECEIVING WATER: Connecticut River, Chicopee River and Mill River

RECEIVING WATER CLASSIFICATION: Class B

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency, (EPA) and the Massachusetts Department of Environmental Protection (MADEP) have cooperated in the development of a permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure that State Water Quality Standards and provisions of the Clean Water Act will be met. EPA has formally 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 DRAFT PERMIT:

A fact sheet or a statement of basis (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) may be obtained at no cost at

https://www.epa.gov/npdes-permits/massachusetts-draft-individual-npdes-permits

or by contacting:

Meridith Timony
U.S. Environmental Protection Agency – Region 1
5 Post Office Square, Suite 100 (OEP06-1)
Boston, MA 02109-3912
Telephone: (617) 918-1533
Timony.meridith@epa.gov

The administrative record containing all documents relating to this draft permit is on file and 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 MEETING:

The Regional Administrator has determined, pursuant to 40 CFR §124.12, that a significant degree of public interest exists in this proposed permit and that a public meeting should be held in Springfield, Massachusetts to consider this permit. Accordingly, a public meeting will be held on the following date and time:

DATE:	Tuesday, April 24, 2018
TIME:	5:00 pm – 6:00pm
LOCATION:	Pioneer Valley Planning Commission Second Floor Large Conference Room 60 Congress Street Springfield, MA 01104

The following is a summary of the procedures that will be followed at the public meeting:

- The Presiding Chairperson will have the authority to open and conclude the meeting and to maintain order.
- EPA will make a short presentation describing the NPDES permit process and the draft permit conditions, and then accept questions from the audience.
- Formal oral comments concerning the draft permit will not be accepted at the public meeting. Formal oral comments will be accepted at the subsequent public hearing.

PUBLIC HEARING:

The Regional Administrator has determined, pursuant to 40 CFR §124.12, that a significant degree of public interest exists in this proposed permit and that a public hearing should be held in Springfield, Massachusetts to consider this permit. Accordingly, a public hearing will be held on

the same date and following the close of the public meeting:

DATE: Tuesday, April 24, 2018

TIME: 6:15 pm

LOCATION: Pioneer Valley Planning Commission
Second Floor Large Conference Room
60 Congress Street
Springfield, MA 01104

The following is a summary of the procedures that will be followed at the public hearing:

- The Presiding Chairperson will have the authority to open and conclude the hearing and to maintain order.
- Any person appearing at such a hearing may submit oral or written statements and data concerning the draft permit.

PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by April 27, 2018, to the U.S. EPA, 5 Post Office Square, Boston, Massachusetts 02109. 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.

LEALDON LANGLEY, DIRECTOR
MASSACHUSETTS WASTEWATER
MANAGEMENT PROGRAM
MASSACHUSETTS DEPARTMENT OF
ENVIRONMENTAL PROTECTION

KEN MORAFF, DIRECTOR
OFFICE OF ECOSYSTEM PROTECTION
ENVIRONMENTAL PROTECTION
AGENCY