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REGION I – NEW ENGLAND
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FACT SHEET AND SUPPLEMENTAL INFORMATION

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

NPDES GENERAL PERMIT NOs: MAG580000 AND NHG580000

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I. COVERGE UNDER THIS PERMIT

A. Introduction

The Director of the Office of Ecosystem Protection, EPA Region I-New England, is proposing to reissue the General National Pollutant Discharge Elimination System (NPDES) Permit for publicly owned treatment works treatment plants (POTW treatment plants) and other treatment works treating domestic sewage (collectively "facilities") which discharge treated wastewater to certain surface waters of the Commonwealth of Massachusetts (including both Commonwealth and Indian Country Lands) and the State of New Hampshire. The term "treatment works treating domestic sewage" is defined as "a POTW or any other sewage sludge or wastewater treatment system involved in the storage, treatment, recycling, and reclamation of municipal or domestic sewage" (see 40 CFR § 122.2). For purposes of this General Permit, other treatment works treating domestic sewage refers to facilities other than POTWs that accept and treat domestic wastewater, and may include (but are not limited to) facilities operating at schools, hotels, nursing homes, etc.

General Permit MAG58000 applies to discharges in Massachusetts, and General Permit NHG58000 applies to discharges in New Hampshire. Unless otherwise specified, these two permits are collectively referred to as the "Publicly Owned Treatment Works General Permit" ("POTW GP" or the "General Permit") throughout this fact sheet and in the draft General Permit. The draft General Permit will replace the previous POTW GP that expired on September 23, 2010 (the "expired General Permit" or "expired POTW GP"). There are currently 18 facilities in New Hampshire and 3 facilities in Massachusetts who received coverage under the expired General Permit, all of whom have had their authorizations to discharge under the expired General Permit administratively continued in accordance with the Administrative Procedures Act (5 U.S.C. 558(c)) and 40 CFR § 122.6. It is expected that these facilities will seek authorization to discharge under the POTW GP upon its reissuance. These facilities and the receiving waters into which they discharge are listed in **Appendix A**.

EPA is proposing the following changes to the expired POTW GP:

- Removal of the reporting requirements for minimum and maximum daily flow rates as well as the total flow for each operating day for Massachusetts dischargers (see Part III.A. of this fact sheet and Parts I.A. and B. of the draft General Permit).
- Replace total coliform bacteria limits with *Escherichia coli* limits to reflect the bacteria water quality criteria promulgated in the 2006 revisions to the Massachusetts surface water quality standards (314 CMR Part 4.00) (see Part III.D. of this fact sheet and Part I.A. of the draft General Permit);
- New requirement for facilities using an alternative to chlorine for disinfection to comply with the total residual chlorine limitations, monitoring and reporting requirements any time chlorine is added to the treatment process (see Part III.E. of this fact sheet and Parts I and II of the draft General Permit);

- New fecal coliform bacteria and total coliform bacteria maximum daily reporting requirements for New Hampshire discharges to marine waters (see Part II.B. of the draft General Permit);
- Expanded operation and maintenance requirements for New Hampshire dischargers (see Part II.D. of the draft General Permit);
- New nitrogen monitoring and reporting requirements for facilities discharging to receiving waters that are tributary to Long Island Sound, including those discharging within the Housatonic, Thames, and Connecticut River Watersheds (See Part III of this fact sheet and Part III.I. of the draft General Permit);
- New requirement for the submittal of reports and analytical results required by the draft permit electronically via EPA's NetDMR internet-based application (see Part II.E. of this fact sheet and Part VI.B. of the draft permit).

This fact sheet provides the principal facts and the significant legal and policy questions considered during the development of the draft permit.

B. Coverage of General Permits

Section 301(a) of the Clean Water Act (the "Act") provides that the discharge of pollutants is unlawful except in accordance with a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the Act. EPA's regulations provide for the issuance of two types of NPDES permits: individual permits and general permits. Individual permits are issued to individual discharges, and are developed according to the specific nature of each facility and the receiving water into which a facility discharges. Under the authority provided at 40 CFR § 122.28, EPA may issue a general permit to one or more category or subcategories of discharges when the point sources within a particular category operate in the same geographic area and: involve the same or substantially similar types of operations, discharge the same types of wastes, require the same effluent limitations and operating conditions, require the same or similar monitoring requirements, and, in the opinion of the Director, are more appropriately controlled under a general permit than under individual permits (40 CFR § 122.28(2)(i)(A)(B)(C)(D) and (E)).

Based on these factors, EPA believes that discharges from POTWs and other treatment works treating domestic sewage qualify for coverage under a general permit for the following reasons: (1) the point sources eligible for coverage under the General Permit are located in the same geographic area (i.e., in Massachusetts or New Hampshire) and employ the same or similar operations in providing a minimum of secondary treatment to domestic wastewater; (2) the wastewater discharged from these sources is similar in composition and requires the same or similar effluent limitations, monitoring requirements, and other conditions to be effectively controlled; and (3) in the opinion of the Director, these point sources consist of multiple facilities within a single category of discharges that are more appropriately controlled and efficiently regulated under a general permit than under individual permits.

Based on this reasoning, EPA first issued a general permit authorizing discharges from certain POTW treatment plants and other treatment works treating domestic sewage on September 14,

2005. This permit expired on September 23, 2010 (the "expired General Permit" or "expired POTW GP). Once reissued, the POTW GP will enable facilities whose coverage under the expired POTW GP has been administratively continued (pursuant to the requirements of 40 CFR § 122.6) to maintain compliance with the Clean Water Act, will extend new environmental and regulatory controls to these dischargers as well as to new permittees, and will reduce EPA's permit issuance backlog of pending individual permit applications and expired permits.

C. Eligibility

Publicly owned treatment works (POTWs) and other treatment works treating domestic sewage are classified as either major or minor facilities ("facilities" or "dischargers"). Major dischargers are facilities with design flows equal to or greater than one million gallons per day (MGD) and any other facilities so designated by EPA, in its discretion, as a major discharger (see 40 CFR §§ 122.2 and 124.2). Facilities with design flows of less than one MGD are generally classified as minor dischargers. Coverage under the POTW GP is extended to minor facilities in Massachusetts, and to both major and minor facilities in New Hampshire, that discharge to freshwater or marine waters which provide a dilution factor of at least 50.

D. Exclusions

The draft POTW GP excludes specific dischargers from coverage, including:

- Any facility that is not defined as a POTW or a treatment works treating domestic sewage, as defined at 40 CFR § 403.3 and 40 CFR §122.2, respectively;
- Any facility that does not provide, at a minimum, secondary treatment to the discharge;
- Any POTW with an EPA-approved industrial pretreatment program or any POTW required to develop an industrial pretreatment program;
- Any facility with a dilution factor of less than 50;
- Any facility with combined sewer overflows (CSOs);
- Any facility that owns or operates a sewage sludge incinerator;
- Any facility that has an individual permit that includes water quality-based effluent limitations more stringent than, or for pollutants not addressed by, the POTW GP;
- Discharges to territorial seas, as defined at Clean Water Act (CWA) Section 502;
- Discharges to Massachusetts Ocean Sanctuaries, as defined at 302 CMR Part 5.00;
- Discharges an Outstanding Resource Water in New Hampshire as defined under Env-Wq 1708.05(a), unless as allowed by the New Hampshire Department of Environmental Services (NHDES) under Env-Wq 1708.05(b);
- Discharges to Class A waters in the State of New Hampshire, in accordance with RSA 485A:8, I. and Env-Wq 1708.06. To determine if the proposed receiving water is a Class A waterbody and the applicability of this exclusion, contact the NHDES at the address provided in **Attachment F** of the draft permit;

- Discharges to an outstanding natural resource water, or to an Area of Critical Environmental Concern (ACEC) in Massachusetts;
- Discharges to areas identified as containing threatened or endangered species, or critical habitats of such species, under the Endangered Species Act (ESA), unless the requirements specified in the draft permit are satisfied (see Part V.C. of this fact sheet and Part IV.D.2. and Attachment D of the POTW GP). Any discharge which adversely affects properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. Sections 470 et seq. (See Part V.D. of this fact sheet and Part IV.D.1. and Attachment C of the draft POTW GP for additional information);
- Discharges to an impaired water where the discharge of the pollutant causes or contributes to the impairment for which the receiving water is listed in the States' published 303(d) lists. The impaired waters require a TMDL according to the state's CWA section 303(d) list. This exclusion does not apply to facilities discharging: (1) bacteria that is limited by the permit at the applicable water quality criteria or (2) pH within the range equal to the applicable Massachusetts or New Hampshire water quality criteria for pH;
- Discharges which are inconsistent with the State Coastal Zone Management Program (see Part VIII. B. of this fact sheet);
- Any new or increased discharge which is inconsistent with the antidegradation policy of the State in which the discharge occurs;
- Any "New Source" discharger, as defined at 40 CFR § 122.2;
- Discharges to the Connecticut, Housatonic, or Thames Rivers Watersheds that contain more than 35 lbs/day of total nitrogen;
- Any discharge that the Director determines is inappropriate for coverage under a general permit, based on, but not limited to, consideration of the following factors:
    a. The variability of the pollutants or pollutant parameters in the effluent (based on chemical-specific information, the type of treatment facility, and the types of industrial contributors);
    b. Existing controls on point or nonpoint sources, including total maximum daily load calculations for the water body segment and the relative contribution of the Discharger;
    c. Receiving stream characteristics, including possible or known water quality impairment;
    d. Recommendations from the State;
    e. Other considerations (including but not limited to consultation with the State, a history of toxic impact or compliance problems at the facility) which the Director determines could cause or contribute to adverse water quality impacts; or,
    f. Discharges to a river designated as a Wild and Scenic River (See http://www.rivers.gov/wildriverslist.html for current designations and additional

information). Also see http://www.rivers.gov/agencies.html for a listing of state river management agencies.

Any discharge identified above will need to obtain (or maintain) coverage under an individual NPDES permit.

II. STATUTORY AND REGULATORY AUTHORITY

A. Statutory Requirements

The Clean Water Act ("CWA" or the "Act") prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit, unless such a permit is otherwise authorized by the CWA (see CWA Section 301(a), 33 U.S.C. § 1131(a)). Section 402 of the Act, 33 U.S.C. 1342, authorizes EPA to issue NPDES permits allowing discharges that will meet certain requirements, including CWA Sections 301, 304, and 401 (33 U.S.C. 1331, 1314, and 1341). Those statutory provisions require that NPDES permits include effluent limitations requiring authorized discharges to: (1) meet standards reflecting specified levels of technology-based treatment requirements; (2) comply with state water quality standards; and (3) comply with other appropriate requirements of state law imposed pursuant to Section 401 of the CWA, 33 U.S.C. 1341.

The draft POTW GP was developed in accordance with the various statutory and regulatory requirements established pursuant to the CWA and any applicable state regulations. The regulations governing EPA's NPDES permit program are generally found at 40 CFR Parts 122, 124, and 125.

In developing the draft POTW GP, EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the expired permit, in accordance with the requirements of 40 CFR § 122.44. These requirements are discussed further in the following paragraphs.

A permit may not be renewed, reissued, or modified with less stringent limitations or conditions than those contained in the previous permit unless it is in compliance with the antibacksliding requirements of the CWA. EPA's antibacksliding provisions restrict the relaxation of permit limits, standards, and conditions. Therefore, unless under certain limited circumstances, effluent limits in the reissued permit must be at least as stringent as those of the previous permit. Effluent limits based on technology, water quality, and state certification requirements must meet the antibacksliding provisions found under Section 402(o) and 303(d) of the CWA, and in 40 CFR § 122.44(l). The limitations and conditions of the draft POTW GP satisfy the antibacksliding requirements of the CWA.

B. Technology-based Requirements

Under Section 301(b)(1) of the CWA, POTWs must have achieved effluent limitations based upon secondary treatment by July 1, 1977. The secondary treatment technology regulations (effluent limits) found at, 40 CFR Part 133, represent the minimum level of control that must be applied to

POTWs and specifies the minimum level of effluent quality that is to be achieved by secondary treatment for the parameters five day biochemical oxygen demand (BOD_5) (or five-day carbonaceous oxygen demand ($CBOD_5$)), total suspended solids (TSS), and pH.

As described earlier in this fact sheet, facilities treating domestic sewage, but which are not POTWs, are eligible for coverage under the POTW GP if they meet the criteria found in Part IV of the draft permit. EPA has not promulgated National Effluent Guidelines for treatment works treating domestic sewage other than POTWs. Section 402(a)(1) of the CWA and 40 CFR § 125.3 authorizes EPA, on a case-by-case basis, to make a Best Professional Judgment (BPJ) determination in establishing permit limits in the absence of national standards. Because these facilities are similar in operation and treat the same type of waste (domestic wastewater) as POTWs, and employ treatment technologies approved for use by POTWs, EPA has made a BPJ determination that the technology-based secondary treatment regulations found at 40 CFR Part 133 apply to these facilities.

Since all Clean Water Act statutory deadlines for meeting the technology-based guidelines found at 40 CFR Part 133 have expired, the deadline for compliance with technology-based effluent limits for a POTW is the date of permit issuance (40 CFR § 125.3(a)(1)). Extended compliance deadlines cannot be authorized by a NPDES permit if statutory deadlines have passed.

C. Water Quality-based Requirements

Section 301(b)(1)(C) of the CWA requires the incorporation of limitations in addition to technology-based based effluent limitations in NPDES permits as determined by EPA and the State to be necessary to achieve or maintain water quality standards in the receiving water. Receiving water requirements are established according to numerical and narrative standards adopted under state law for each stream classification. A water quality standard consists of three elements: (1) a beneficial designated use(s) for a waterbody or segment of a waterbody; (2) a numeric or narrative water quality criterion sufficient to protect the designated use(s); and (3) an anti-degradation requirement to ensure that once a use is attained, it will be maintained. The Massachusetts and New Hampshire water quality standards are found at 314 Code of Massachusetts Regulations (CMR) Part 4.00 (Massachusetts Surface Water Quality Standards); and 50 RSA 485-A:8 and Chapter Env-Wq 1700 (New Hampshire Surface Water Quality Regulations), respectively.

Pursuant to 40 CFR § 122.44(d), permittees must achieve water quality standards established under Section 303 of the CWA, including State narrative criteria for water quality. Additionally, under 40 CFR § 122.44(d)(i), "limitations must control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." In determining reasonable potential, EPA considers existing controls on point and nonpoint sources of pollution, pollutant concentration and variability in the effluent and receiving water as determined from the permittee's NPDES application, discharge monitoring reports, state and federal water quality reports; and, where appropriate, the dilution of the effluent in the receiving water (see 40 CFR §122.44(d)(l)(ii)). If EPA concludes, after using the procedures found

at 40 CFR § 122.44(d)(1)(ii), toxicity testing data, and/or other available information, that a discharge causes or has the reasonable potential to cause or contributes to an in-stream excursion above a numeric criterion within an applicable state water quality standard, effluent limitations must be included in NPDES discharge permits in order to ensure that water quality standards in the receiving water are met (40 CFR § 122.44(d)(1)(v)).

Water quality-based limits are established in accordance with the requirements of 40 CFR §122.44(d). When developing permit limits based on numeric criteria within state water quality standards, both the acute and chronic criteria are used. Such criteria are derived from extensive scientific studies. These criteria are expressed in terms of maximum allowable instream pollutant concentrations. Maximum daily limits are generally derived from acute aquatic life criteria, and average monthly limits are generally derived from chronic aquatic life criteria.

Pursuant to Section 401(a) of the CWA, EPA has published national recommended water quality criteria for pollutants with known toxicities in the *Quality Criteria for Water*: *1986* (1986 USEPA [440/5-86-001]), as amended, which is commonly referred to as the "Gold Book". New Hampshire has adopted these national criteria (with certain exceptions) into their water quality standards (see Env-Wq 1703.21). The Massachusetts water quality standards designates the EPA's national recommended criteria as the allowable instream concentrations for pollutants not otherwise listed in 314 CMR Part 4.00, unless the State either establishes a site-specific criterion or makes a determination that naturally-occurring background concentrations of a specific pollutant are higher (314 CMR § 4.05(5)(e)).

Numeric criteria are used in conjunction with the design flow of the treatment works to calculate water quality-based effluent limits for monthly and daily time periods as appropriate. The dilution afforded by the receiving water at the point of discharge is also factored into these calculations. The availability of the POTW GP is restricted to those POTW treatment plants and other wastewater treatment facilities which discharge to receiving waters having a dilution factor[1] of at least 50. With the minimum dilution factor set at this magnitude, there is no reasonable potential for the discharge of chemical pollutants, with the exception of chlorine, to cause or contribute to exceedances above numeric water quality criteria. Chlorine is expected to be present in the discharge from most facilities, as it is commonly used in the wastewater disinfection process. Further, typically in New England, POTW treatment plants (and other treatment works treating domestic sewage) which discharge to low-dilution receiving waters, may present reasonable potential to cause or contribute to exceedances of the ambient aquatic life criteria for ammonia and certain metals. For purposes of this permit, a receiving water is considered to provide low dilution if the dilution factor is less than 50. In most situations, reasonable potential for exceedances of water quality standards for multiple pollutants, and therefore, the need for water quality–based effluent limitations for those pollutants, becomes necessary when the receiving water dilution factor is less than 20. Therefore, EPA believes that the selection of a dilution factor of 50 as the threshold for obtaining coverage under the POTW GP is sufficiently conservative to ensure protection of water quality.

[1] The dilution factor for a discharge is calculated using the receiving water low flow and the facility's design flow. The equation used to determine the dilution factor is (Qs + Qd)/Qd, where Qs is the receiving water flow upstream of the discharge and Qd is the facility's design flow. A discharge into a steam with no upstream receiving water flow under low flow conditions has a dilution factor of one.

In addition to numeric water quality criteria, narrative criteria from state water quality standards are also used to limit toxicity in discharges where: (1) a specific pollutant can be identified as causing or contributing to the toxicity, but for which no numeric criteria have been established; or (2) toxicity cannot be traced to a specific pollutant. The water quality standards of both Massachusetts and New Hampshire contain narrative criteria which prohibit the discharge of toxic substances in toxic amounts (see the Massachusetts water quality standards at 314 CMR § 4.05(5)(e) and the New Hampshire water quality standards at Env-Wq 1703-.21(a)). The draft POTW GP does not allow the discharge of pollutants in concentrations or combinations which would produce a toxic effect to aquatic life.

Receiving Water Classification and Designated Uses

The POTW GP is available to eligible minor Massachusetts facilities that discharge to surface waters classified as either Class B, SA, or SB waters in the Massachusetts Surface Water Quality Standards (see 314 CMR §§ 4.05(3)(b); and 4.05(4)(a) and (b)) and to eligible major and minor New Hampshire facilities that discharge to receiving waters classified as Class B waters in the New Hampshire Surface Water Quality Regulations (see RSA 485-A, I, II, and III). The effluent limits established in the POTW GP were developed to ensure that the designated uses assigned to these stream classifications will be protected, maintained, and/or attained in the receiving waters into which the discharges authorized by the permit occur.

Sections 305(b) and 303(d) of the CWA require that states complete a water quality inventory and develop a list of impaired waters. Specifically, Section 303(d) of the CWA requires states to identify those water bodies that are not expected to meet surface water quality standards after the implementation of technology-based controls, and as such, require the development of a total maximum daily load (TMDL) for each pollutant that is prohibiting a designated use(s) from being attained. In Massachusetts, these two evaluations have been combined into an Integrated List of Waters, which provides the status of all assessed waters in a single, multi-part list which is published every two years. In New Hampshire, the results of the 305(b) assessments are used in the development of the State of New Hampshire's 303(d) lists, which are published every two years and identifies the water bodies which are not meeting (or are not expected to meet) water quality standards, identifies the designated use(s) which is impaired and also the pollutant(s) causing the impairment(s). These general permits are not available to any facility discharging to an impaired water where the discharge contains a pollutant identified as causing or contributing to the impairment for which the receiving water is listed in the states' published CWA Section 303(d) lists. This exclusion does not apply to (1) bacteria that is limited by the permit at the applicable water quality criteria or (2) pH within the range equal to the applicable water quality criteria for pH.

In accordance with the antibacksliding requirements of CWA 402(o) and 40 CFR § 122.44(l), any facility with a current individual permit which includes limitations more stringent than, or for pollutants not addressed by, the draft POTW GP are not eligible for coverage under the General Permit.

The limitations and conditions established in the POTW GP were developed to ensure that the designated uses of the receiving water will be protected, maintained, and/or attained. The draft

POTW GP includes a provision which requires an individual permit for any discharge in violation of state water quality standards (see Part V.E.1. of the draft POTW GP and Part V.E.1. of this fact sheet). For those dischargers that are not granted coverage under this permit because the discharge contains pollutants in quantities which represent reasonable potential to cause or contribute to violations of water quality standards, the discharger must apply for an individual NPDES permit.

D. Antidegradation Provisions

The environmental regulations pertaining to State antidegradation policies, which protect a State's surface waters from degradation of water quality, are found in the Massachusetts Surface Water Quality Standards at 314 CMR § 4.04; and the New Hampshire Surface Water Quality Regulations at RSA 485A:8, VI and Env-Wq 1708.

These General Permits do not apply to any discharge to any outstanding national resource water or to the territorial seas. New or increased discharges to other waters may not be granted coverage if the discharge is shown to be inconsistent with State antidegradation policies. This determination shall be made in accordance with the appropriate State's antidegradation implementation procedures. EPA will not authorize these discharges under either General Permit until it receives a favorable antidegradation review and certification from the appropriate State.

New discharges to Class A waters in Massachusetts, which are classified as Outstanding Resources Waters, are not eligible for General Permit coverage because the Massachusetts water quality standards prohibit discharges to these waters (CMR §4.04(3)(b)),. However, the State's antidegradation policy could allow an existing discharge to a Class A water to qualify for permit coverage if the resulting antidegradation review is favorable.

The limitations and conditions of the draft POTW GP are consistent with the antidegradation policies of both Massachusetts and New Hampshire.

E. Monitoring and Reporting Requirements

The monitoring requirements in the draft POTW GP have been establish to yield data representative of the discharges under the authority of Section 308(a) of the CWA and 40 CFR §§§ 122.41(j), 122.44(i) and 122.48, and as certified by the State in which the discharge occurs.

The draft POTW GP requires permittees to submit monthly discharge monitoring report forms (DMRs), whole effluent toxicity (WET) test reports, the results of any additional analyses conducted on samples of the effluent, and other reports required by the draft General Permit to both EPA and the appropriate State agency (either the Massachusetts Department of Environmental Protection (MassDEP) or the New Hampshire Department of Environmental Services (NHDES)). The monitoring and reporting frequencies in the draft POTW GP are specific with respect to the requirements of the State in which the discharge occurs.

New provisions related to the submittal of discharge monitoring report (DMR) forms to EPA and the appropriate State agency are proposed in the draft General Permit. The draft General Permit requires that, no later than one year after the effective date of the permit, DMRs, MassDEP's

Monthly Operation and Maintenance Reports, NHDES's Monthly Operations Reports, and other reports required by the draft General Permit shall be submitted to EPA using NetDMR, unless the permittee demonstrates a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR (an "opt-out"). NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure internet application to 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: http://www.epa.gov/netdmr.

Once a permittee begins submitting reports using NetDMR, they will no longer be required to submit hard copies of DMRs or other reports required by this permit to EPA or NHDES. However, permittees shall continue to send hard copies of reports other than DMRs (including MassDEP's Monthly Operation and Maintenance Reports) to MassDEP until further notice from MassDEP.

Opt-out requests must be submitted in writing to EPA at least sixty (60) days prior to the date the facility would otherwise be required to begin using NetDMR. Opt-outs shall become effective upon the date of written approval by EPA and shall be valid for twelve (12) months from the date of EPA approval and shall thereupon expire. Upon expiration, DMRs and reports shall be submitted to EPA using NetDMR unless the permittee has submitted a renewed opt-out request 60 days prior to expiration of their opt-out and such request is approved by EPA.

III. EFFLUENT LIMTIATIONS

This section describes the numeric technology and water quality-based limitations and narrative conditions included in the draft POTW GP.

A. Flow

Part I of the draft POTW GP includes a flow limitation for Massachusetts discharges that is equal to the design flow of the facility from which the discharge occurs, as reported in the Notice of Intent (NOI) submitted for permit coverage in accordance with Part V.B.1. of the draft General Permit. This limit is an annual average limit which shall be reported using the rolling average method. The monthly average and maximum daily flows shall also be reported.

Part II of the draft POTW GP includes average monthly and maximum daily reporting requirements for flow for discharges to receiving waters in New Hampshire.

The draft permit also requires permittees to submit to EPA and either NHDES or MassDEP a projection of loadings, a program for maintaining satisfactory treatment levels, and plans for facility improvements whenever the effluent flow exceeds 80 percent of the facility's design flow capacity for three consecutive months (for New Hampshire facilities) or for 90 consecutive days (for Massachusetts facilities) (see Part III.A.6. of the draft permit).

B. Five-day Biochemical Oxygen Demand (BOD_5)/Carbonaceous Oxygen Demand ($CBOD_5$) and Total Suspended Solids (TSS)

The draft General Permit includes average monthly and average weekly limitations for BOD_5 and TSS of 30 mg/l and 45 mg/l, respectively, in accordance with the secondary treatment regulations for POTWs found at 40 CFR § 133.102(a) and (b). Permittees may request $CBOD_5$ limits in place of BOD_5 limits in their NOI submittal, as allowed under 40 CFR § 133.102(a)(4). As such, the draft permit also includes average monthly and average weekly $CBOD_5$ limits of 25 mg/l and 40 mg/l, respectively, in accordance with the secondary treatment regulations for POTWs found at 40 CFR § 133.102(a)(4)(i) and (ii). The draft permit also includes BOD_5 (or $CBOD_5$) and TSS maximum daily limitations of 50 mg/l (or 45 mg/l) which apply to New Hampshire discharges.

In addition to concentration limits, the draft General Permit includes mass limits, pursuant to the requirements of 40 CFR § 122.45(f)(1). The mass limitations in the draft permit are based on the facility's design flow, and are therefore specific to each facility. The mass limitations are calculated as follows (also see **Appendix B**):

Mass Limit (lbs/day) = concentration limit (mg/l) x Design Flow x 8.34 (conversion factor).

In accordance with the provisions of 40 CFR § 133.102(a)(4)(iii), the draft permit requires that the 30-day average percent removal of BOD_5 (or $CBOD_5$) and TSS be no less than 85 %.

The concentration and mass BOD_5 (or $CBOD_5$) and TSS limits and the 85 % removal requirement in the draft permit are the same as those in the expired General Permit and are therefore consistent with the antibacksliding requirements of 40 CFR § 122.44(l).

C. pH

The pH limits in the draft POTW GP were established to be consistent with the criteria for pH found in the Massachusetts and New Hampshire water quality standards. Additionally, these limits have been carried forth from the expired permit, and are therefore consistent with the antibacksliding requirements of 40 CFR § 122.44(l).

The Massachusetts water quality standards specify that the pH of Class A and B waters (freshwater) shall be within the range of 6.5-8.3 Standard Units (SU), and within 0.5 SU of the natural background range (see 314 CMR § 4.05(3)(a)(3) and 4.05(3)(b)(3)); and that the pH of Class SA and SB waters (marine) shall be within the range of 6.5-8.5 SU, and within 0.2 SU of the natural background range (314 4.05(4)(a)(3) and 4.05(4)(b)(3)).

The New Hampshire water quality standards require the pH of Class B waters (freshwater and marine) to be within the range of 6.5-8.0 SU, unless due to natural causes (Env-Wq 1703.18(b)).

The draft General Permit includes a pH limit range of 6.0-9.0 SU for the category of discharges authorized by the draft General Permit, with the exception of discharges to receiving waters in New Hampshire that are identified in the state's 303(d) listing due to pH impairments. In the latter case, the pH of the effluent shall be within the range of 6.5-8.0 SU. These technology-based limits

are consistent with the secondary treatment regulations set forth at 40 CFR § 133.102(c) and, given the high minimum dilution factor required for coverage under the draft General Permit, are sufficiently stringent so as to ensure the protection of each state's water quality standards.

D. Bacteria

The bacteria limitations in the draft General Permit were established in accordance with the water quality standards of the state in which the discharge occurs. These limits are applied at the end-of-pipe (i.e., no allowance for dilution) for discharges in both Massachusetts and New Hampshire, in accordance with Massachusetts state certification requirements under Section 401(d) of the CWA, as described in 40 CFR §§ 124.53 and 124.55, and with the New Hampshire water quality standards (Env-Wq 1703.06(b)), respectively.

The bacteria limits proposed in the draft General Permit are shown in Table 1 and the basis for their derivation is described below.

Massachusetts Discharges to Freshwater:

Class A

The fecal coliform bacteria limits in the expired General Permit for Massachusetts discharges to Class A receiving waters have been maintained in the draft General Permit. In the event more stringent regulations apply to these waters (i.e., in the case of these waters being classified as being outstanding resource waters), dischargers to such waters would be required to obtain an individual NPDES permit (314 CMR § 4.06(2)(d)(1)). *Escherichia coli (E. coli)* criteria were adopted in the revised Massachusetts Surface Water Quality Standards for Class A waters that were promulgated on December 29, 2006 and approved by EPA on September 19, 2007 (314 CMR § 4.05(b)(4)). The draft permit therefore includes limits for *E. coli* based on the criteria in the Massachusetts Water Quality Standards. A more stringent maximum day limitation for *E. coli* applies to discharges to bathing beach waters (see Part I.A. of the draft General Permit).

Class B

The fecal coliform bacteria limits in the expired General Permit for Massachusetts discharges to Class B receiving waters have been replaced by limits for *Escherichia coli* (*E. coli*). These limits are based upon the *E. coli* criteria that were adopted in the revised Massachusetts Surface Water Quality Standards for Class B waters that were promulgated on December 29, 2006 and approved by EPA on September 19, 2007 (314 CMR § 4.05(b)(4)). In the revised water quality standards, fecal coliform bacteria have been replaced by *E. coli* as the bacterial indicator organism for freshwater systems. A more stringent maximum day limitation for *E. coli* applies to discharges to bathing beach waters (see Part I.A. of the draft General Permit).

The Massachusetts water quality standards allow for the application of bacteria criteria for Class B waters on a seasonal basis at the discretion of MassDEP (314 CMR § 4.05(4)(a)(4)(b)). The draft General Permit maintains the provision in the expired General Permit allowing for the application of bacteria limits to discharges to Class B waters on a seasonal basis, from April 1st- October 31st,

upon receipt of approval from MassDEP to conduct seasonal disinfection of the effluent, as allowed by the *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (MassDEP. February 23, 1990). Applying the bacteria limits during these months will ensure protection of the contact recreation designated uses assigned to this class, since these are the months in which the receiving waters are expected to be used for recreational purposes.

Massachusetts Discharges to Marine Waters

Class SA and Class SB

The draft General Permit includes fecal coliform limits for facilities discharging into Class SA and SB waters designated for shellfishing by the Massachusetts Water Quality Standards. These limits are based on the criteria at 314 CMR § 4.05(b)(4)

The draft General Permit also includes enterococci bacteria limits for waters within these classes. These limits are based on the criteria adopted in the revised Massachusetts water quality standards which were promulgated in 2006 and approved by EPA in 2007 (314 CMR § 4.05(b)(4)). A more stringent maximum day limitation for enterococci applies to discharges to bathing beach waters.

Calculating Monthly Average Discharges of Bacteria in Massachusetts

Average monthly discharges of fecal coliform bacteria, total coliform bacteria, *E. coli*, and enterococci shall be determined by using the geometric mean of the samples collected during each monthly reporting period.

Table 1 Bacteria Limits for Massachusetts Discharges to Freshwaters

Indicator Organism	Receiving Water Class	Discharge Limitation		
		Units	Average Monthly	Maximum Daily
Fecal Coliform Bacteria[1]	A	cfu/100 ml	20	100
E. coli	A	cfu/100 ml	126	235
E. coli[2]	B	cfu/100 ml	126	235
E. coli[3]	B	cfu/100 ml	126	409

[1]Limits applicable to discharges to waters used as unfiltered water supplies.
[2] Limits applicable to discharges to bathing beach waters.
[3]Limits applicable to discharges to non-bathing beach waters

Table 2 Bacteria Limits for Massachusetts Discharges to Marine Waters

Indicator Organism	Receiving Water Class	Discharge Limitation		
		Units	Average Monthly	Maximum Daily
Fecal Coliform Bacteria[1]	SA	cfu/100 ml	14	43
Enterococci[2]	SA	cfu/100 ml	35	104
Enterococci[3]	SA	cfu/100 ml	35	276
Fecal Coliform Bacteria[1]	SB	cfu/100 ml	88	260
Enterococci[2]	SB	cfu/100 ml	35	104
Enterococci[3]	SB	cfu/100 ml	35	276

[1]Limits for discharges to waters designated for shellfishing
[2] Limits applicable to discharges to bathing beach waters.
[3]Limits applicable to discharges to non bathing beach waters

New Hampshire Discharges to Freshwater and Marine Waters

The draft General Permit contains bacteria limits for discharges to receiving waters in New Hampshire in accordance with the New Hampshire water quality standards and which are consistent with the designated uses prescribed in the State rules and statutes (see Env-Wq 1703.06 and RSA 485-A:8, II and V, respectively).

E. coli limits apply to discharges to freshwater and depend upon the presence of designated beach areas (see RSA 485-A:8, II). Enterococci and either total coliform or fecal coliform bacteria limits apply to discharges to marine waters, and are a function of the designated use of shellfishing and the utilization of the receiving water for swimming purposes (see RSA 485-A:8, V). Two New Hampshire statutes (RSA 487:34 and 485-A:8,V.) specify water quality criteria for receiving waters with designated shellfish areas. Specifically, RSA 485-A:8,V requires that tidal waters used for growing or taking of shellfish for human consumption shall be in accordance with the criteria recommended under the *National Shellfish Sanitation Program Manual of Operations*, United States Food and Drug Administration (FDA). Additionally, RSA 487:34 requires classification of shellfish waters in accordance with the FDA National Shellfish Sanitation Program (NSSP). The NSSP Guide includes standards for shellfish growing areas based on total coliform or fecal coliform.

Permittees are to indicate in their NOI submission whether or not the discharge is to freshwater with designated beach areas or to tidal waters utilized for swimming purposes (this information is to be confirmed with NHDES prior to submitting an NOI) and also which bacteria limits apply to their discharge (see Part V.B.3. of the draft permit).

Calculation for compliance with the average monthly limit for fecal coliform bacteria, total coliform bacteria, enterococci and *Escherichia coli* shall be determined by using the geometric mean of the samples collected during each monthly monitoring period. The draft permit proposes maximum daily reporting requirements for total coliform and fecal coliform bacteria, which are to be reported as the percentage of sample results that exceed a most probably number (MPN) of 230 per 100 ml (for total coliform bacteria) or 43 per100 ml (for fecal coliform bacteria), for the 5-tube decimal dilution test, reported as the maximum daily value

Table 3 Bacteria Limits for New Hampshire Discharges (Freshwater and Marine Waters)

Indicator Organism	**Discharge Limitation**		
	Units	**Average Monthly**	**Maximum Daily**
Discharges to Freshwater			
E. coli[1]	per 100ml	47	88
E. coli[2]	per 100 ml	126	406
Discharges to Marine Waters			
Fecal Coliform Bacteria[3] Fecal Coliform Bacteria[3]	per 100 ml %	14 ------	----- Report
Total Coliform Bacteria[3] Total Coliform Bacteria[3]	per 100 ml %	70 -----	----- Report
Enterococci[4] Enterococci[5]	per 100 ml per 100 ml	35 Report	104 Report

[1]Freshwater, designated beach area
[2]Freshwater, non-designated beach area
[3]All marine waters. Compliance with the average monthly limit is determined by calculating the geometric mean. Compliance with the maximum daily limit is determined by reporting the percent of samples that exceed 43 MPN/100 ml fecal coliform bacteria, or 230 MPN/100 ml total coliform bacteria.
[4]Marine waters utilized for swimming purposes
[5]Marine waters not utilized for swimming purposes

E. Total Residual Chlorine

Chlorine and chlorine compounds produced by the chlorination of domestic wastewater during the disinfection process can be extremely toxic to aquatic life. Section 101(a)(3) of the CWA, the Massachusetts water quality standards and the New Hampshire water quality standards prohibit the discharge of toxic pollutants in toxic amounts (see 314 CMR § 4.05 (5)(e), the *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters* [MassDEP, February 23, 1990]; and Env-Wq 1703.21, respectively). To reduce the potential for the formation of chlorinated compounds during the wastewater disinfection process, and to provide for adequate protection of the "no toxic substances in toxic amounts" narrative criteria contained within both State's water quality standards, EPA has historically made a best professional judgment (BPJ) determination in establishing 1.0 mg/l as the maximum allowable concentration of chlorine that may be present (both as a monthly average and daily maximum

limitation) in discharges from POTWs. When determining which TRC limitations apply to a discharge, water quality criteria are multiplied by the dilution factor. If the resultant value is less than 1.0 mg/l, then that value becomes incorporated into the permit as a water quality-based limit. However, if the resultant value is greater than the maximum allowable concentration of chlorine that EPA has determined may be present in a POTWs discharge, then a limit of 1.0 mg/l, based on State water quality standards or BPJ is included in the permit. The equations used to determine which TRC limits apply are provided in **Attachment C**.

The State of Massachusetts water quality standards establish that criteria published in the *National Recommended Water Quality Criteria: 2002* (EPA 2002 [EPA 822R-02-047]) are the allowable receiving water concentrations for toxics unless pollutants are otherwise listed in 314 CMR Part 4.00 or unless site specific criteria have been established by the Department (see 314 CMR § 4.05 (5)(e)). Criteria for chlorine have not been established otherwise in 314 CMR Part 4.00 nor has the Department established any site-specific criteria for chlorine. The chlorine limitations in the draft General Permit are based on the *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (MassDEP, February 23, 1990) and the criteria found in the *National Recommended Water Quality Criteria: 2002* (EPA 2002 [EPA 822R-02-047]). The New Hampshire Surface Water Quality Regulations establishes numeric acute and chronic water quality criteria for chlorine which are identical to the recommended federal criteria (See Env-Wq 1703.21, Table 1703.1).

The EPA-recommended acute and chronic criteria for chlorine are 19 µg/l (0.019 mg/l) and 11 µg/l (0.011 mg/l), respectively, for freshwater, and 13 µg/l (0.013 mg/l) and 7.5 µg/l (0.0075 mg/l), respectively, for marine waters (*National Recommended Water Quality Criteria: 2002* [EPA 2002 [EPA 822R-02-047]).

The TRC limits in the expired General Permit, which have been maintained in the draft, were established for the allowable range in dilution factors for receiving waters in Massachusetts and New Hampshire, as shown in Parts I and II of the draft General Permit, and are based upon either State water quality standards or BPJ. The TRC limits in the draft permit which are less than 1.0 mg/l are based on the water quality criteria for chlorine contained in both the New Hampshire and Massachusetts water quality standards. The TRC limits for Massachusetts discharges to freshwater with a dilution factor equal to or greater than 100, or to marine waters with a dilution factor equal to or greater than 133, have been set at 1.0 mg/l, in accordance with the Massachusetts *Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (MassDEP, February 23, 1990). The TRC limits in the draft permit for New Hampshire discharges that are equal to 1.0 mg/l are based on best professional judgment (BPJ), as allowed under the authority granted in Section 402(a)(1) of the CWA and 40 CFR § 125.3(c), so as to provide for adequate protection of the "no toxics in toxic amounts" narrative criterion found in the New Hampshire water quality standards. The TRC limits in the draft permit which are less than 1.0 mg/l are based on the water quality criteria for chlorine contained in both the New Hampshire and Massachusetts water quality standards. The equations used to determine which TRC limits apply to a discharge are provided in **Attachment C** of this fact sheet.

Alternative Disinfection Methods

Permittees whose facilities use alternative disinfection methods to chlorine, such as ultraviolet (UV) disinfection or ozonation, are to provide this information in their NOI for permit coverage (see Part V.B.1. of the draft permit). The total residual chlorine limitations, monitoring, and reporting requirements apply to discharges from such facilities any time chlorine is added to the treatment process.

Additional Requirements Relevant to Massachusetts Discharges

The draft General Permit maintains the requirement in the expired General Permit for Massachusetts facilities for the reporting of interruptions or malfunctions of chlorine dosing systems that may have resulted in levels of chlorine that were inadequate for achieving effective disinfection or in excessive quantities of chlorine being present in the final effluent.

The *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants* (MassDEP, February 23, 1990) allows for the seasonal disinfection of discharges to certain receiving waters upon approval by MassDEP (also see 314 CMR § 4.05(5)(e)). Facilities discharging to Class B waters, Class SA waters not designated for shellfishing, or Class SB waters not designated for shellfishing may, at the discretion of MassDEP and EPA, conduct seasonal disinfection of their effluents. Such requests shall be made in the NOI submitted for coverage under the General Permit (see Part V.B.2. of the draft General Permit). Such facilities may also request authorization to comply with the bacteria limits on a seasonal basis concurrent with the disinfection season (i.e., from April 1st- October 31st, unless otherwise specified in the written authorization from MassDEP and EPA). Facilities that use alternative disinfection methods to chlorine may also apply for seasonal disinfection.

F. Nutrients

The draft General Permit maintains the requirements in the expired General Permit for Massachusetts facilities to conduct annual monitoring of total ammonia nitrogen, total kjeldahl nitrogen (TKN), total nitrite nitrogen (NO_2), total nitrate nitrogen (NO_3), and phosphorus (for facilities discharging to freshwater only) and for New Hampshire facilities to conduct annual monitoring for ammonia nitrogen.

The draft General Permit also proposes additional nitrogen monitoring requirements for Massachusetts facilities discharging to the Connecticut, Thames, and Housatonic River Watersheds and to New Hampshire facilities discharging to the Connecticut River, which drain to Long Island Sound. 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 POTWs discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25 % reduction from the baseline total nitrogen loading estimated in the TMDL.

The baseline total nitrogen point source loadings estimated for the Connecticut, Housatonic, and Thames River watersheds were 21,672 lbs/day, 3,286 lbs/day, and 1,253 lbs/day respectively (see table below). The estimated current point source total nitrogen loadings for the Connecticut, Housatonic, and Thames, Rivers, respectively are 13,836 lbs/day, 2,151 lbs/day, and 1,015 lbs/day, based on recent information and including all POTWs in the watershed (see **Appendix D**). The following table summarizes the estimated baseline loadings, TMDL target loadings, and estimated current loadings:

Basin	**Baseline Loading[1] lbs/day**	**TMDL Target[2] lbs/day**	**Current Loading[3] 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**

1. Estimated loading from TMDL, (see Appendix 3 to CT DEP "Report on Nitrogen Loads to Long Island Sound", April 1998)
2. Reduction of 25% from baseline loading
3. Estimated current loading from 2004 – 2005 DMR data – detailed summary can be found in **Appendix D**.

The TMDL target of a 25 % aggregate reduction from baseline loadings is currently being met, and the overall loading from MA, NH and VT POTWs discharging to the Connecticut, Housatonic, and Thames River watersheds have been reduced from baseline loadings by approximately 36 %, 35 %, and 19 %, respectively.

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 intends to include nitrogen-related conditions in permits for existing treatment facilities in Massachusetts and New Hampshire that discharge to the Connecticut, Housatonic and Thames River Watersheds. Owners/operators of facilities discharging less than 35 lbs/day of total nitrogen to these receiving waters shall comply with the average monthly and maximum daily reporting requirements for total nitrogen (TN), ammonia nitrogen, total kjeldahl nitrogen (TKN), total nitrite nitrogen (NO_2), and total nitrate nitrogen (NO_3) in either Part I.A. or Part II.A. of the draft General Permit. These monitoring requirements are consistent with the approach applied by the Connecticut Department of Environmental Protection, which applied a threshold of 20 lbs/day (equivalent in impact to a 35 lbs/day threshold at facilities upstream in MA and NH) when imposing nitrogen controls on existing facilities. See Nitrogen Control for Small Sewage Facilities (CT DEP); General Permit for Nitrogen Discharges (CT DEP 2005).

Discharges exceeding the 35 lbs/day threshold loading of total nitrogen are not eligible for coverage under the draft POTW GP, and the owners/operators of the facilities from which such discharges occur must apply for an individual discharge permit.

EPA will initially determine whether the owners/operators of facilities discharging to receiving waters within the Housatonic, Thames, or Connecticut River Watersheds will be required to obtain coverage under an individual permit during the review of NOIs to be covered under the General

Permit (see Part V.B.1.). However, if at any time, information is received (e.g., monitoring results, water quality reports) which indicates that the quantity of total nitrogen discharged from such facilities exceeds 35 lbs/day, the permittee will no longer be eligible to be covered under the General Permit, and will be required to apply for an individual permit. Permittees will be provided with written notification from EPA of the requirement to apply for an individual permit.

G. Whole Effluent Toxicity

Section 101(a)(3) of the CWA prohibits the discharge of toxic pollutants in toxic amounts, and the water quality standards of both New Hampshire and Massachusetts contain narrative criteria which prohibits the discharge of toxic substances. Specifically, New Hampshire law states that, "all waters shall be free from toxic substances or chemical constituents in concentrations or combinations that injure or are inimical to plants, animals, humans, or aquatic life; ...." (NH RSA 485-A:8, VI and NH Code of Administrative Rules, Part Env-Wq 1703.21), and the Massachusetts water quality regulations require all surfaces waters to be "free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife" (314 CMR § 4.05(5)(e)). The NPDES regulations found at 40 CFR §122.44(d)(1)(v) require whole effluent toxicity (WET) limits in a permit when reasonable potential exists for a discharge to cause or contribute to an excursion above state narrative criteria for toxicity.

EPA's *Technical Support Document for Water Quality-Based Toxics Control* (EPA 1991 [EPA/505/290-001]) recommends using an "integrated strategy" containing both pollutant (chemical) specific approaches and whole effluent (biological) toxicity approaches to control toxic pollutants in effluent discharges from entering the nation's waterways. These approaches are designed to protect both aquatic life and human health. Pollutant-specific approaches, such as those found in the Gold Book and state regulations, address individual chemicals, whereas whole effluent toxicity (WET) approaches evaluate interactions between pollutants, thus rendering an "overall" or "aggregate" toxicity assessment of the effluent. Furthermore, WET measures the "additive" and/or "antagonistic" effects of individual chemical pollutants, which pollutant-specific approaches do not; thus, the need for both approaches. In addition, the presence of an unknown toxic pollutant can be discovered and addressed through WET testing. Based on the potential for toxicity from domestic and industrial contributions, WET limitations and conditions are included in the draft General Permit in accordance with the applicable State narrative water quality criteria, EPA national and regional policy (40 CFR § 122.44(d)), and applicable State policies (also see *Policy for the Development of Water Quality-based Permit Limitations for Toxic Pollutants*, 49 Fed. Reg. 9016 March 9, 1984, and EPA's *Technical Support Document for Water Quality-Based Toxics Control* (EPA 1991 [EPA/505/290-001]) and the *Massachusetts Water Quality Standards Implementation Policy for the Control of Toxic Pollutants in Surface Waters* (MassDEP, 1990)).

EPA's current approach to establishing WET testing requirements in NPDES permits issued to POTWs and other treatment works treating domestic sewage is to require WET testing in all permits, with the type of whole effluent toxicity test(s) (acute and/or chronic) and the effluent limitation(s) required by the permit being based on the available dilution in the receiving water at the point of discharge (i.e., a lower dilution factor is correlated to an increase in the risk of toxicity associated with a discharge). Discharges to receiving waters having a dilution factor of at least 50 are typically subject to acute WET limitations in NPDES permits.

For both Massachusetts and New Hampshire discharges, the draft permit includes an acute (LC_{50}) WET limit of 100% for discharges having dilution factors ≤ 100, and an LC_{50} limit of ≥ 50 % for discharges with dilution factors greater than 100. WET testing is not required for minor facilities that discharge to receiving waters having a dilution factor greater than 1,000. The acute (LC_{50}) limit is defined as the percentage of effluent that causes mortality to 50% of the test organisms. Therefore, an LC_{50} limit equal to 100 % or ≥ 50 % means that a sample comprised of 100 % or ≥ 50% effluent, respectively, shall not cause mortality to more than 50 % of the test organisms.

The draft permit requires Massachusetts facilities that discharge to freshwater to conduct WET tests using the daphnid, *Ceriodaphnia dubia* (*C. dubia*), as the test species. Massachusetts facilities that discharge to marine waters are to conduct WET tests using the mysid shrimp, *Mysidopsis bahia* (*M. bahia*), and the inland silverside, *Menidia beryllina* (*M. beryllina*) as test species.

New Hampshire facilities that discharge to freshwater are to conduct WET tests using the daphnid, *C. dubia,* and the fathead minnow, *Pimephales promelas (P. promelas)* as test species. New Hampshire facilities that discharge to marine waters are to conduct WET tests using the mysid shrimp, *Mysidopsis bahia* (*M. bahia*), and the inland silverside, *Menidia beryllina* (*M. beryllina*) as test species.

The draft General Permit maintains the special condition in the expired General Permit which allows for a reduction in the WET testing requirements for New Hampshire dischargers. Specifically, Part II.C. of the draft POTW GP allows for a reduction in the frequency of the required WET tests to not less than once per year, following the completion of a minimum of the most recent four successive toxicity tests of the effluent, all of which must be valid tests and demonstrate compliance with the permit limits for WET.

The limitations and conditions pertaining to WET testing in the draft permit are the same as those in the expired permit, and so are in keeping with the antibacksliding requirements found at 40 CFR § 122.44(l).

Additional Analyses to be Conducted in Conjunction with WET Tests

The draft permit maintains the requirements in the expired permit for the analyses of several selected parameters, which are to be conducted on the 100% effluent samples in conjunction with WET tests. Specifically, the draft permit includes requirements for facilities discharging to receiving waters in Massachusetts (both fresh and marine water) for the analysis and reporting of total organic carbon, total ammonia nitrogen, total kjeldahl nitrogen, total nitrite, total nitrate; and total recoverable aluminum, cadmium, chromium, copper, nickel, lead and zinc. Massachusetts facilities discharging to fresh water receiving streams are also required to analyze and report hardness and total phosphorus. Facilities discharging to New Hampshire receiving waters (both fresh and marine waters) are required to report the results of analyses for the following parameters: total ammonia nitrogen, total aluminum; and total recoverable cadmium, chromium, copper, nickel, lead and zinc. New Hampshire facilities discharging to freshwater are also required to report hardness.

H. Dilution Factor and Mixing Zones

Water quality-based effluent limitations are established based on a calculated dilution factor derived from the flow in the receiving water at the point of discharge and the design flow of the facility from which the discharge occurs. The dilution factor also initially determines a discharge's eligibility for permit coverage.

For freshwater rivers and streams, both the Massachusetts and New Hampshire water quality regulations establish the lowest flow condition at which water quality criteria are to be applied as the 7Q10 flow in the receiving water (see 314 CMR § 4.03(3)(a) and Env-Wq 1705.02(d), respectively). The 7Q10 flow is the lowest mean flow for seven consecutive days, with a recurrence interval of once in ten years. The use of the 7Q10 flow allows for the calculation of the available dilution under critical flow (worst-case) conditions, which in turn results in the derivation of conservative water quality-based effluent limitations. The New Hampshire water quality standards require that 10 % of the receiving water's assimilative capacity be held in reserve for future needs (Env-Wq 1705.01). Therefore, a factor of 0.9 is multiplied by the combined effluent and river flows in deriving dilution factors for establishing water quality based effluent limitations. For Massachusetts waters that are regulated by dams or similar structures and for tidal waters in New Hampshire, the specified lowest flow condition at which aquatic life criteria must be applied is the flow that results in a dilution that is exceeded 99% of the time (see the Massachusetts water quality standards at 314 CMR § 4.03(3)(b) and the New Hampshire water quality standards at Env-Wq 1705.02(c)).

For marine waters in Massachusetts, the critical hydrologic condition at which water quality must be met is established on a case-by-case basis. Existing uses must be protected, and the selected critical hydrologic condition shall not interfere with the attainment of designated uses (see 314 CMR § 4.03(3)(c)).

The water quality standards of both Massachusetts and New Hampshire provide for the application of mixing zones to establish the available dilution on a case-by-case basis when certain criteria are met (see the Massachusetts water quality standards at 314 CMR § 4.03(2) and the *Massachusetts Water Quality Standards Implementation Policy for Mixing Zones* (MassDEP, January 28, 1993) and the New Hampshire water quality regulations at Env-W1705 and Env-Wq 1707). MassDEP is developing an interpretation of its mixing zone regulations relevant to lakes and reservoirs. Massachusetts permittees who discharge to these types of waterbodies should contact MassDEP at the addresses provided in **Attachment F** of the draft POTW GP for additional information.

The equations used to calculate dilution factors are provided in **Appendix B**. The State permitting authority must be contacted at the addresses provided in **Attachment F** of the draft POTW GP to confirm the 7Q10 flow and the dilution factor (or other appropriate hydrologic condition), or to request consideration of a mixing zone for the facility, prior to completing the NOI requirements for authorization to discharge under the POTW GP.

IV. ADDITIONAL CONDITIONS AND REQUIREMENTS

A. Sludge

The draft General Permit requires that the permittee comply with all existing federal and state laws that apply to sewage sludge use and disposal practices and with the Clean Water Act Section 405(d) technical standards (see 40 CFR Section 503).

Domestic sludge which is land applied, disposed of in a surface disposal unit, or fired in a sewage sludge incinerator is subject to federal 40 CFR Part 503 technical and to the New Hampshire Sludge Management Rules (Env-Wq 800) (for facilities discharging to receiving waters in New Hampshire). Part 503 regulations have a self-implementing provision; however, the CWA requires their implementation through permits. Domestic sludge that is disposed in municipal solid waste landfills is 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 Part 258 (Criteria for Municipal Solid Waste Landfills).

The draft General Permit has been conditioned to ensure that sewage sludge use and disposal practices meet the CWA Section 405(d) Technical Standards. 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 I guidance document, *EPA Region 1 - NPDES Permit Sludge Compliance Guidance* (EPA, November 4, 1999), may be used by the permittee to assist in determining the applicable requirements.[2]

The draft General Permit requires the submittal of an annual report to EPA and either MassDEP or NHDES 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* (EPA, November 4, 1999).

B. Industrial Users

Any POTW that is required to administer an industrial pretreatment program (IPP) is not eligible for coverage under the POTW GP. However, Part III.D. of the draft General Permit does include conditions that are necessary to allow EPA, MassDEP, and NHDES to ensure that pollutants discharged to a POTW by an industrial user will not pass through the facility and cause violations of water quality standards and/or sludge use and disposal difficulties, or cause interference with the operation of the treatment works. The draft General Permit requires permittees to notify EPA and either MassDEP or NHDES whenever a process wastewater discharge to a facility from an industrial user within a primary industry category is planned or if there is any substantial change in the volume or character of pollutants being discharged into the facility by a source that was discharging at the time of the effective date of permit coverage. The draft General Permit also requires permittees to report to EPA and either MassDEP or NHDES the name(s) of all industrial users subject to Categorical Pretreatment Standards under 40 CFR § 403.6 and 40 CFR Chapter I,

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

Subchapter N (Parts 405-415, 417-436, 439-440, 443, 446-447, 454-455, 457-461, 463-469, and 471 as amended) and/or New Hampshire Pretreatment Standards (Env-Ws 904) who commence discharge to the POTW after the effective date of permit coverage, and (2) submit copies of Baseline Monitoring Reports and other pretreatment reports submitted by industrial users to EPA and either MassDEP or NHDES-WD.

C. Operation and Maintenance

The NPDES regulations found at 40 CFR § 122.41(e) require "that the permittee shall at all times operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of the permit." The treatment plant and collection system are included in the definition “facilities and systems of treatment and control” and are therefore subject to proper operation and maintenance requirements. Similarly, pursuant to 40 CFR §122.41(d), permittees have a “duty to mitigate”. This requires the permittees to “take all reasonable steps to minimize or prevent any discharge in violation of the permit which has a reasonable likelihood of adversely affecting human health or the environment.” (see 40 CFR §122.41(d)).

General requirements for proper operation and maintenance, and mitigation have been included in Part IX of the draft POTW GP. State-specific operation and maintenance requirements, including (but not limited to) requirements for maintaining an adequate staff, maintaining a preventative maintenance program, developing and maintaining an infiltration and inflow (I/I) control plan, maintaining an alternate power source, and reporting requirements, have been included in Part I.C. and Part II.D. of the draft POTW GP.

V. APPLICATION REQUIREMENTS AND NOTICE OF INTENT

A. Notification of Intent

To receive authorization to discharge under the POTW GP, applicants must submit a Notice of Intent (NOI) to both EPA and the appropriate State agency. The NOI must state that the discharge meets the applicable requirements of the General Permit and that the applicant is requesting coverage under the General Permit. Facility owners/operators must submit an NOI whether General Permit coverage is being sought for the first time or if the discharge was authorized under the expired General Permit. The owner/operator of any facility operating under an individual NPDES permit may request that the individual permit be terminated and that coverage under the General Permit be granted, as outlined in 40 CFR Section 122.28(b)(3)(v). When coverage under the General Permit is granted, the individual permit is automatically terminated. A discharge is not authorized under the General Permit until written authorization to discharge under the POTW GP is received from EPA.

1. Notice of Intent (NOI) Information

The owner and/or operator of the facility is responsible for applying for coverage under the General Permit, as required by 40 CFR Section 122.21(b). To obtain coverage under the General Permit, owners/operators of facilities whose discharge is identified in Part IV.A and B. of the draft

POTW GP must submit to EPA and the appropriate State a complete NOI consisting of the information required in Part V.B. of the draft POTW GP that applies to the discharge, including:

a. A cover letter requesting authorization to discharge under the POTW GP. The letter must specify which General Permit the applicant is seeking coverage under (either Massachusetts General Permit MAG580000, Part I.A., Minor facilities discharging to Freshwater; or Part I.B., Minor Facilities Discharging to Marine waters; or New Hampshire General Permit NHG580000, Part II.A, Discharges to Fresh Waters, or Part II.B., Discharges to Marine Waters).

b. The facility information required in Part V.B.1.d. of the draft POTW GP.

c. The information requested in the NPDES Form 2A application, Part A.1-A.12, and Parts B, D, E, and F, as they apply to the discharge.

d. Any additional information required by the State in which the discharge occurs (see Part V B.2. and 3. of the draft permit).

Any applicant with a complete NPDES Form 2A application on file with EPA and the appropriate State may use the previously submitted Form 2A in requesting authorization to discharge under the General Permit. In this case, the NOI shall consist of:

a. A letter requesting authorization to discharge under the General Permit, which specifies which General Permit the facility is seeking coverage under, and which states that the discharge meets the applicable requirements of the General Permit (see Part V.B.1.a. of the draft POTW GP);

b. A copy of the "Application Complete" letter sent to the applicant from EPA;

c. Any supplemental information required by Part V.B.1.d.-i. of the draft General Permit; and,

d. Any additional information required by the state in which the discharge occurs (see Part V B.2. and 3. of the draft General Permit).

2. NOI Timeframes

a. *Discharges Authorized by the Expired POTW GP:*

Owners/operators of facilities whose authorization to discharge under the expired POTW GP has been administratively continued in accordance with the Administrative Procedures Act (5 U.S.C. 558(c)**)** and 40 CFR § 122.6, who wish to obtain coverage under the reissued POTW GP, must submit a new NOI requesting permit coverage in accordance with the requirements of Part V. of the reissued POTW GP to EPA and the appropriate State agency within 90 days after the effective date of the reissued POTW GP. For enforcement purposes, permittees whose authorization to discharge under the expired POTW GP was administratively continued, who fail to submit an NOI or an application for an individual NPDES permit within 90 days after the effective date of the reissued POTW GP, will be considered to be discharging without a permit. An NOI is not required if the permittee submits a notice of termination (NOT), as set forth in Part V.A. of this Fact Sheet within 90 days after the effective date of the reissued POTW GP (also see Part VII.A. of the draft General Permit).

b. *Discharges Authorized by an Unexpired Individual NPDES Permit*:

Owners/Operators of facilities discharging under an unexpired individual NPDES permit may request that the individual permit be revoked and that coverage under the General Permit be granted, in accordance with 40 CFR § 122.28(b)(3)(v), whereby the General Permit shall apply to the discharge upon revocation of the individual permit.

c. *Discharges Authorized by an Administratively Continued (Expired) Individual NPDES Permit:*

Owners/operators of facilities whose authorization to discharge under an expired individual NPDES permit that has been administratively continued in accordance with the provisions of 40 CFR § 122.6 may apply for coverage under the POTW GP. When coverage under the POTW GP is granted, the administratively continued individual NPDES permit will automatically cease to be in effect (see 40 CFR § 122.28(b)(3)(v)).

d. *Proposed New/Increased Discharge:*

Owners/operators of facilities seeking coverage under the POTW GP for a proposed new/increased discharge(s) must submit an NOI to EPA and the appropriate State agency, postmarked at least 180 days prior to the commencement of the new/increased discharge. The appropriate state agency must be contacted prior to submitting an NOI to determine whether or not additional information is required.

B. Essential Fish Habitat

Under the 1996 Amendments (Public Law 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 the National Marine Fisheries Service (NMFS) if an action or proposed action that EPA funds, permits or undertakes, "may adversely impact any essential fish habitat" (16 U.S.C. 1855(b)). The Amendments broadly define "essential fish habitat" (EFH) 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 CFR § 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). EFH designations for New England were approved by the U.S. Department of Commerce on March 3, 1999. In a letter addressed to EPA-New England, dated October 10, 2000, NMFS confirmed that for projects authorized through the NPDES permit process, notification for purposes of EFH consultation can be accomplished in the EFH section of the fact sheet which accompanies a draft permit or in the Federal Register notice.

Proposed Action: EPA is reissuing the National Pollutant Discharge Elimination System (NPDES) General Permit for discharges from certain publicly owned treatment works treatment plants (POTW treatment plants) and other treatment works treating domestic sewage (the "POTW GP" or "General Permit"). Upon reissuance, the POTW General Permit will replace the previous POTW

GP which expired on September 23, 2010 (the "expired POTW General Permit" or "expired General Permit"). The POTW GP provides permit coverage to facilities in Massachusetts and New Hampshire whose discharge is identified in Part IV.A. and B. of the draft POTW GP (also see Part I.C. of this fact sheet). Changes made to the expired POTW GP are summarized in Part I.A. of this fact sheet.

Resources: The draft POTW GP contains effluent limitations and monitoring requirements for discharges to both freshwater and marine waters of Massachusetts and New Hampshire. Therefore, EPA's EFH assessment considers all 40 federally-managed species with designated EFH in the coastal and inland waters of Massachusetts and New Hampshire.

The following is a list of EFH species and applicable life stage(s) for the area that includes Massachusetts, New Hampshire, and the adjacent marine waters:

Species	**Eggs**	**Larvae**	**Juveniles**	**Adults**
Atlantic Salmon (*Salmo salar*)			X	X
Atlantic Cod (*Gadus morhua*)	X	X	X	X
Haddock (*Melanogrammus aeglefinus*)	X	X	X	X
pollock (*Pollachius virens*)	X	X	X	X
whiting (*Merluccius bilinearis*)	X	X	X	X
offshore hake (*Merluccius albidus*)				
red hake (*Urophycis chuss*)	X	X	X	X
white hake (*Urophycis tenuis*)	X	X	X	X
redfish (*Sebastes fasciatus*)	n/a	X	X	X
witch flounder (*Glyptocephalus cynoglossus*)	X	X		
winter flounder (*Pleuronectes americanus*)	X	X	X	X
yellowtail flounder (*Pleuronectes ferruginea*)	X	X	X	X
windowpane flounder (*Scopthalmus aquosus*)	X	X	X	X
American plaice (*Hippoglossoides platessoides*)	X	X	X	X
ocean pout (*Macrozoarces americanus*)	X	X	X	X

Species	Eggs	Larvae	Juveniles	Adults
Atlantic halibut (*Hippoglossus hippoglossus*)	X	X	X	X
Atlantic sea scallop (*Placopecten magellanicus*)	X	X	X	X
Atlantic sea herring (*Clupea harengus*)	X	X	X	X
monkfish (*Lophius americanus*)	X	X	X	X
bluefish (*Pomatomis saltatrix*)			X	X
long finned squid (*Loligo pealei*)	n/a	n/a	X	X
short finned squid (*Illex illecebrosus*)	n/a	n/a	X	X
Atlantic butterfish (*Peprilus triacanthus*)	X	X	X	X
Atlantic mackerel (*Scomber scombrus*)	X	X	X	X
summer flounder (*Paralicthys dentatus*)	X	X	X	X
scup (*Stenotomus chrysops*)	n/a	n/a	X	X
black sea bass (*Centropristus striata*)	n/a	X	X	X
surf clam (*Spisula solidissima*)	n/a	n/a	X	X
ocean quahog (*Artica islandica*)	n/a	n/a		
spiny dogfish (*Squalus acanthias*)	n/a	n/a	X	X
tilefish (*Lopholatilus chamaeleonticeps*)				
king mackerel (*Scomberomorus cavalla*)	X	X	X	X
Spanish mackerel (*Scomberomorus maculatus*)	X	X	X	X
cobia (*Rachycentron canadum*)	X	X	X	X
sand tiger shark (*Odontaspis taurus*)		X		
blue shark (*Prionace glauca*)		X		X
dusky shark (*Charcharinus obscurus*)			X	
shortfin mako shark (*Isurus oxyrhyncus*)			X	
sandbar shark (*Charcharinus plumbeus*)			X	X
bluefin tuna (*Thunnus thynnus*)			X	X

Source: NOAA Fisheries Services http://www.nero.noaa.gov

EPA has identified 21 likely candidates for coverage under the POTW GP, including 18 in New Hampshire and three in Massachusetts. Although coverage under the POTW GP is extended to any eligible applicant, this EFH assessment considers these 21 facilities, whose discharges were covered under the expired POTW GP (see **Appendix A** for a listing of covered facilities and the receiving waters into which they discharge). Of the 21 facilities expected to seek permit coverage, EPA has identified only one that discharges to marine waters in New Hampshire (Piscataqua River). None of the potential applicants discharge to marine waters in Massachusetts. With respect to freshwater, the Saco, Cocheco, Lamprey, Merrimack, and Connecticut Rivers, and certain tributaries to these rivers, are designated EFH for Atlantic salmon (*Salmo salar*). Several POTWs and other treatment works treating domestic sewage are located within the Connecticut and Merrimack River Basins, including seven whose discharges are authorized by the expired POTW GP.

*Analysis of Effects and EPA's Opinion of Potential Impacts***:** EPA believes that the discharges authorized under the POTW GP will have minimal adverse effects on EFH for a number of reasons, including:

- This is a reissuance of an existing permit;
- The availability of coverage under the POTW GP is restricted to those facilities where the dilution factor for the discharge in the receiving water is greater than 50;
- Coverage under the General Permit is not available to POTWs that are required to have an approved industrial pretreatment program;
- The effluent limitations established in the POTW GP ensure protection of aquatic life and maintenance of the receiving water as an aquatic habitat;
- The facilities covered under the POTW GP withdraw no resource water from an intake system, so no life stages of EFH-protected species are vulnerable to impingement or entrainment;
- The proposed limits and permit eligibility requirements in the POTW GP are sufficiently stringent to ensure that state and federal water quality standards will be met;
- The POTW GP specifically excludes coverage to facilities that discharge to designated areas under the Essential Fish Habitat Act, unless specific requirements of the permit are fulfilled; and,
- The POTW GP includes water quality-based limits for total residual chlorine and WET; and monitoring requirements for nutrients, ammonia; and total recoverable aluminum, cadmium, chromium, copper, lead, nickel, and zinc.

EPA concludes that the effluent limitations, conditions, and monitoring requirements contained in the POTW GP will minimize adverse effects to aquatic organisms, including EFH species, as well as their habitat and forage species. As part of this permitting action, EPA is contacting the National Oceanic and Atmospheric Administration (NOAA) Fisheries under Section 305(b)(2) of the Magnuson Stevens Act regarding this assessment and requests any additional recommendations that NOAA Fisheries may have to protect EFH.

Proposed Mitigation: Mitigation for unavoidable impacts associated with reissuance of the POTW GP is not warranted at this time because it is EPA's opinion that impacts will be negligible if the conditions in the POTW GP are met. If adverse impacts to EFH do occur, either as a result of noncompliance or from unanticipated effects from this activity, authorization to discharge under the POTW GP can be revoked.

C. Endangered Species

Section 7(a) of the Endangered Species Act (ESA) of 1973, as amended, grants authority to and imposes requirements upon federal agencies regarding endangered or threatened species of fish, wildlife, or plants (listed species) and habitat of such species that has been designated as critical (a "critical habitat"). The ESA requires every federal agency, in consultation with and with the assistance of the Secretary of Interior, to ensure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The U. S. Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

Section 7 Consultations

Section 7 of the ESA provides for formal and informal consultation with USFWS and NMFS (the "Services"). For NPDES permits issued in Massachusetts and New Hampshire, where EPA is the permit issuing agency, draft NPDES permits and fact sheets are routinely submitted to the Services for informal consultation prior to issuance. EPA is coordinating with the Services through the Draft POTW GP and fact sheet during the public comment period. Based on EPA's working experience with the Services on numerous prior permits and identification of certain endangered species, general geographic areas of concern in the States and the potentially affected waters, including critical habitats, EPA has prepared this POTW GP to ensure adequate protection of listed threatened or endangered species or the critical habitat of such species protected under the ESA.

The discharges authorized by the POTW GP are described in Part I.C. of this fact sheet. The General Permit contains proposed limits and conditions that are sufficiently stringent to ensure that the regulated discharges are protective of listed species and critical habitat. Coverage under the General Permit is limited to POTWs that are not required to have industrial pretreatment programs and other treatment works that treat domestic sewage. The General Permit prohibits the discharge of pollutants in amounts that would be toxic to aquatic life and it prohibits any discharge from violating the water quality standards which apply to the receiving water in which the discharge occurs. Further, the General Permit contains provisions that require permittees to conduct toxicity testing. Finally, General Permit coverage is not available to a facility whose discharge(s) may adversely affect threatened or endangered species or its critical habitat. EPA is requesting written concurrences from USFWS and NMFS indicating that except for the species and areas listed below, the effluent limitations established in the General Permit ensure the protection of human health and aquatic life and the maintenance of the receiving water as an aquatic habitat.

In addition to EPA's coordination with the Services for the issuance of the POTW GP, an optional type of informal consultation consists of the designation of a non-federal representative (NFR) to determine whether a federal action is likely to have an adverse effect on listed species or critical habitat. The ESA regulations provide for permit applicants, where designated, to carry out informal consultations as an NFR, which enables them to work directly with the Services (See 50 CFR § 402.08). EPA is hereby designating applicants for the POTW GP as NFR's for the purposes of carrying out informal consultations. Therefore, applicants are to contact the Services directly, if necessary, to determine eligibility for coverage under the POTW GP with respect to the ESA.

Prior to submitting the NOI, applicants must review and meet at least one of the six criteria presented in **Attachment D** (Endangered Species Act Requirements) of the draft POTW GP. Additionally, **Attachment E** of the draft General Permit lists counties in Massachusetts and New Hampshire where endangered or threatened species have been identified (Note, this list was last updated in 2008. Facility owners/operators seeking General Permit coverage should refer to the most recent Endangered and Threatened Species County-Species List which is available at http://cfpub.epa.gov/NPDES/stormwater/esa.cfm). Applicants whose facility discharges to these locations and who do not meet Criterion B, C, or F from **Attachment D**, may need to contact the Services, at least thirty (30) days prior to submitting the NOI, to be eligible for coverage under the POTW GP.

The USFWS has requested that it review and comment on all permitting actions for discharges that may affect the federally-listed endangered dwarf wedgemussel (*Alsmidonta heterodon*) which occur in the following areas:

1. Connecticut River from Northumberland to Dalton, NH
2. Connecticut River from Lebanon, NH to Charlestown, NH
3. Ashuelot River downstream of the Surry Mountain Dam to Keene, NH
4. South Branch of Ashuelot River in East Swanzey, NH
5. Mill River in Whately and Hatfield, MA.
6. Mill River Diversion in Northampton, MA

The National Marine Fisheries Service has requested that it review and comment on all NPDES permit actions that may adversely affect the federally-listed endangered shortnose sturgeon (*Acipenser brevirostrum*) in certain areas of the Merrimack and Connecticut Rivers in Massachusetts. Specifically, the sturgeon is found in the Connecticut River (main stem) downstream of Turners Falls, MA and in the Merrimack River (main stem) below the Essex Dam in Lawrence, MA.

When discharge activities occur along these waterways, coverage under the POTW GP is available only if the applicant contacts the Services to determine (1) if listed species are present in the vicinity of the project area; and, (2) whether the applicant's discharge(s) and discharge-related activities are likely to affect listed species and/or critical habitats. Coverage under the POTW GP is available only if the applicant determines that there are no species present in the action area or

the applicant receives written concurrences from the Services that the applicant's discharges are not likely to affect listed species.

Applicants must indicate in their NOI submission which criteria they meet from **Attachment D** of the draft General Permit and if they contacted the Services as a NFR. A copy of any communication with the Services must be submitted with the NOI, as directed. Applicants who cannot certify compliance with the ESA requirements of the General Permit on the NOI form must contact EPA to determine if eligibility for an individual NPDES permit is possible or to discuss other possible options for the proposed discharge.

The General Permit requires the preparation and implementation of conditions imposed under the ESA eligibility requirements in a Discharge Management Program. Any supporting documentation for the Service's determination is maintained in the Program.

Services Contact Information:

US Fish and Wildlife Service
New England Field Office
70 Commercial Street
Suite 300
Concord, NH 03301-5087
Telephone: 603-223-2541

National Marine Fisheries Service
Northeast Region
Attn: Endangered Species Coordinator
Protected Resources Division
55 Great Republic Drive
Gloucester, MA 01930
Telephone: 978-281-9328

D. National Historic Preservation Act of 1966

Discharges that adversely affect properties listed or eligible for listing in the National Registry of Historic Places under the National Historic Preservation Act (NHPA) of 1966, 16 U.S.C. 470 et seq. are not authorized under the draft POTW GP. Applicants must determine whether their discharge(s) have the potential to affect a property that is either listed or eligible for listing on the National Register of Historic Places. Applicants must comply with applicable state, tribal and local laws concerning the protection of historic properties and places, and applicants are required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharge(s) on historic properties.

Electronic listings of National and State Registers of Historic Places are maintained by the National Park Service (http://www.cr.nps.gov/nr), the Massachusetts Historical Commission (www.state.ma.us/sec/mhc) and the New Hampshire Historical Commission (www.state.nh.us/nhdhr). For additional information regarding the requirements pertaining to historic places, see **Attachment C** of the draft General Permit.

Addresses for the Massachusetts SHPO and THPOs are:

Massachusetts (SHPO)
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston, MA 02125
Phone: (617) 727-8470
Fax: (617) 727-5128

Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, MA 02535-9701
Phone: (508) 645-9265
Fax: (508) 645-3790

Chuckie Green
Tribal Historic Preservation Authority
Natural Resources Department
Mashpee Wampanoag Tribe
766 Falmouth Rd. - Unit A7
P.O. Box 1048
Mashpee, MA 02649
Phone: (508)419-6017 ext. 603
Fax: (508)477-0134

The address for the New Hampshire SHPO is:

State Historic Preservation Office
Attention: Review and Compliance
19 Pillsbury Street
Concord, NH 03301-3570
Phone: (603) 271-3558
Fax: (603) 271-3433

E. Requiring Coverage Under an Individual NPDES Permit or Other General Permit

1. When the Director May Require Application for an Individual NPDES Permit

The draft POTW GP provides that, for any applicant, EPA may require an individual permit or recommend coverage under a separate general permit in accordance with 40 CFR § 122.28(b)(3) (see Part V.E. of the draft POTW GP). These regulations also provide that any interested party may petition EPA to take such an action. The issuance of the individual permit or other general permit would be in accordance with 40 CFR Part 124 and would provide for public comment and appeal of any final permit decision.

The Director may require any person authorized by the POTW GP to apply for and obtain an individual NPDES permit**.** Circumstances under which the Director may require an individual permit are described in 40 CFR Section 122.28(b)(3)(i)(A-G) and include:

a. A determination under 40 CFR § 122.28(b)(3);

b. The discharge(s) is a significant contributor of pollution or is in violation of State water quality standards for the receiving water;

c. The discharger is not in compliance with the conditions of the POTW GP;

d. A change has occurred in the availability of the demonstrated technology or practices for the control or abatement of pollutants applicable to the point source(s);

e. Effluent limitation guidelines are promulgated for the point source(s) covered by the POTW GP;

f. A Water Quality Management Plan or Total Maximum Daily Load containing requirements applicable to such point source(s) is approved and is inconsistent with the POTW GP or with the conditions of EPA's authorization to discharge;

g. The point source(s) covered by the POTW GP no longer:

   i. Involves the same or substantially similar types of operations;

   ii. Discharges the same types of wastes;

   iii. Requires the same effluent limitations or operating conditions;

   iv. Requires the same or similar monitoring; and/or,

h. In the opinion of the Director, the discharge is more appropriately controlled under an individual or alternate general permit.

If the Director requires an individual permit, the permittee will be notified in writing and will be provided with a brief explanation of the reason(s) for this decision. When an individual NPDES permit is issued to an operator/operator of a facility whose discharge is otherwise subject to the POTW GP, the applicability of the POTW GP to that permittee is automatically terminated on the effective date of the individual permit (see 40 CFR §122.28(b)(3)(iv)).

2. When an Individual NPDES Permit May be Requested

Any operator may request to be excluded from the coverage of the POTW GP by applying for an individual NPDES permit. However, individual permits will not be issued for discharges authorized by the POTW GP unless it can be clearly demonstrated that inclusion under the POTW GP is inappropriate. This request may be made by submitting a NPDES permit application, consisting of Forms 2A and 2S, and by providing the reasons supporting this request to EPA. Any interested person may also petition EPA to take this action.

F. EPA Determination of Coverage

EPA maintains the final authority for determining which dischargers shall be authorized by the POTW GP. Authorization to discharge under the POTW GP will not become effective until EPA and the appropriate State agency have reviewed the NOI, made a determination that coverage under the PWTF GP is authorized, and provided the applicant with written notification of said authorization. The effective date of coverage will be the date of signature of the authorization letter sent by EPA. Any applicant who is denied coverage or who fails to submit to EPA and the appropriate State agency a complete NOI, and/or fails to receive written notification of permit coverage from EPA, is not authorized to discharge to receiving waters under the POTW GP.

VI. ADMINISTRATIVE REQUIREMENTS

A. Termination of Coverage

Permittees shall notify EPA and the appropriate State agency in writing of the termination of the discharge(s) authorized under this General Permit. The Notice of Termination (NOT) must contain (1) the name, mailing address and telephone number of the facility for which notification is being submitted; (2) the NPDES permit number assigned to the discharge identified by the NOT; and (3) the basis for submission of the NOT, including an indication that the discharge has been permanently terminated and the reason for the termination; or the owner or operator of the discharge has changed.

The NOT shall be submitted to EPA and the appropriate State authority upon the termination of the discharge(s) and must be signed in accordance with the signatory requirements of 40 CFR § 122.22.

B. Continuation of the General Permit After Expiration

If the POTW GP is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedure Act (5 U.S.C. 558(c)) and 40 CFR §122.6 and shall remain in full force and effect for any permittee who submits a notification of intent (NOI) to EPA and the appropriate State requesting to have their authorization to discharge under the POTW GP administratively continued at least 180 days prior to the expiration date of the General Permit. Coverage under the General Permit will not be available to any permittee who submits a NOI after the expiration date.

The NOI for continued permit coverage shall consist of a letter stating the nature of the request (i.e., to have coverage under the POTW GP administratively continued) and shall include the following information: the NPDES permit number assigned to the discharge for which continued permit coverage is being sought; the name, mailing address, and telephone number of the facility, an indication of whether the permittee will seek coverage under the POTW GP upon reissuance, or if authorization to discharge under an individual NPDES permit will be sought; and a description of any modification(s) to the treatment process which might have affected the permittee's eligibility to be covered under the POTW GP.

Any permittee whose coverage under the General Permit is administratively continued, will remain covered by the General Permit until the earlier of:

1. the authorization for coverage under a reissuance or replacement of the permit is granted following a timely and appropriate submittal of a complete NOI in accordance with the the notification requirements of the reissued permit; or
2. Submittal of a Notice of Termination; or
3. Issuance of an individual permit for the permittee's discharge(s); or
4. A formal permit decision by EPA not to reissue this General Permit, at which time EPA will identify a reasonable time period for permittees to seek coverage under an alternative General Permit or an individual permit. Coverage under this permit will cease at the end of this time period.

VII. STANDARD PERMIT CONDITIONS

Permittees must meet the standard permit requirements of 40 CFR Sections 122.41 and 122.42, as applicable to their discharge activities. Specific language concerning these requirements is provided in Part VIII and elsewhere in the draft POTW GP.

VIII. OTHER LEGAL REQUIREMENTS

A. State (Section 401) Certifications

Section 401 of the CWA provides that no federal license or permit, including a NPDES permit, to conduct any activity that may result in any discharge into navigable waters, shall be granted until the state in which the discharge originates certifies that the discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA. The Section 401 certification process is being implemented in Massachusetts and New Hampshire. In addition, EPA and the Commonwealth of Massachusetts jointly issue the final permit. The sludge conditions implementing Section 405(d) of the CWA are not subject to the 401 certification requirements.

For lands held by federally-recognized tribes in Massachusetts, EPA will provide the necessary certification. Currently, the only federally-recognized tribes are the Wampanoag Tribe of Gay Head (Aquinnah) on the Island of Martha's Vineyard, Massachusetts and the Mashpee Wampanoag Indian Tribal Council of Mashpee, Massachusetts.

B. The Coastal Zone Management Act

The Coastal Zone Management Act (CZMA), 16 U.S.C. Sections 1451 et seq., and its implementing regulations (15 CFR Part 930), require that any federally-licensed activity affecting a state's coastal zone be consistent with the enforceable policies of approved state management programs. In the case of general permits, EPA has the responsibility for making the consistency certification and submitting it to the state for concurrence. EPA is in the process of seeking the

State consistency certifications for the POTW GP from the Executive Office of Environmental Affairs, Massachusetts Coastal Zone Management, 251 Causeway Street, Suite 800, Boston, MA 02114; and the Federal Consistency Officer, New Hampshire Coastal Program, Pease Field Office, 222 International Drive, Suite 175, Portsmouth, NH 03801.

C. Environmental Impact Statement Requirements

The POTW GP does not authorize discharges from any new sources as defined under 40 CFR §122.2. Therefore, the National Environmental Policy Act, 33 U.S.C. 4321 et seq., does not apply to the issuance of the POTW GP.

D. Section 404 Dredge and Fill Operations

The POTW GP does not constitute authorization under 33 U.S.C. Section 1344 (Section 404 of the Clean Water Act) of any stream dredging or filling operations.

E. Executive Order 12866

EPA has determined that the POTW GP is not a "significant regulatory action" under the terms of Executive Order 12866, and it is therefore not subject to Office of Management and Budget (OMB) review.

F. Paperwork Reduction Act

The information collection requirements of the POTW GP were previously approved by the OMB under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 et seq. and assigned OMB control number 2040-0086 (NPDES permit application) and 2040-0004 (Discharge Monitoring Reports).

G. Unfunded Mandates Reform Act

Section 201 of the Unfunded Mandates Reform Act (UMRA), Public Law 1044, generally requires federal agencies to assess the effects of their "regulatory actions" (defined to be the same as "rules" subject to the RFA) on tribal, state and local governments and the private sector. The POTW GP, however, is not a "rule" subject to the RFA, and is therefore not subject to the requirements of the UMRA.

Appendix A

Facilities Covered Under the Expired POTW GP (and expected to request coverage under the reissued POTW GP)

Facility	Receiving Water	POTW GP Number
New Hampshire		
(Allenstown) Suncook Wastewater Treatment Facility	Merrimack River	NHG580714
Antrim Wastewater Treatment Facility	Contoocook River	NHG580561
Bethlehem Village District Treatment facility	Ammonoosuc River	NHG580501
Bristol Wastewater Treatment Facility	Pemigewasset River	NHG580021
Cheshire County Complex Wastewater Treatment Facility	Connecticut River	NHG580391
Colebrook Wastewater Treatment Facility	Connecticut River	NHG580315
Gorham Wastewater Treatment Facility	Androscoggin River	NHG580927
Groveton Wastewater Treatment Facility	Upper Ammonoosuc River	NHG580226
Hanover Water Reclamation Facility	Connecticut River	NHG580099
Hopkinton Wastewater Treatment Facility	Contoocook River	NHG580579
Lancaster Grange Wastewater Treatment Facility	Otter Brook	NHG581249
Lisbon Wastewater Treatment Facility	Ammonoosuc River	NH580421
Merrimack County Nursing Home Wastewater Treatment Facility	Merrimack River	NHG580935
Newington Wastewater Treatment Facility	Piscataqua River	NHG581141
Plymouth Village Water and Sewer District	Pemigewasset River	NHG580242
Stratford Village Wastewater Treatment Facility	Connecticut River	NHG580536
Stratford Millhouse Wastewater Treatment Facility	Connecticut River	NHG581214
Winchester Treatment Facility	Ashuelot River	NHG580404
Massachusetts		
Charlemont Sewer District Wastewater Treatment Plant	Deerfield River	MAG580003
Shelburne Falls Wastewater Treatment Plant	Deerfield River	MAG580002
Old Deerfield Wastewater Treatment Plant	Deerfield River	MAG580001

Appendix B

Mass Loading Calculations for Effluent Limitations

These example calculations are intended to initially guide the applicant in completing the notification requirements for coverage under the POTW GP. Please note that loading values must be verified by the appropriate State agency prior to submitting them in your NOI for permit coverage.

Equation used to calculate mass loadings for BOD_5 and TSS:

$$\mathbf{L = C * Q_P * 8.34}$$

Where:

L = Maximum allowable load (i.e., effluent limit), in lbs/day
C = Maximum allowable effluent concentration (i.e., effluent limit) for the reporting period, in mg/l. Reporting periods: Average monthly, Average weekly, Maximum daily.
Q_P = Wastewater treatment plant's design flow, in million gallons per day (mgd).
8.34 = Conversion factor for converting effluent concentration, in mg/l, and the treatment plant's design flow, in million gallons per day (MGD), to lbs/day.

EXAMPLE CALCULATIONS FOR DEVELOPING MASS LOADING EFFLUENT LIMITATIONS

Qp = Treatment plant design flow = 3.2 MGD
C_{ML} = Average Monthly BOD5 or TSS Concentration Limit (30 mg/l)
C_{WL} = Average Weekly BOD5 or TSS Concentration Limit (45 mg/l)
C_{DL} = Maximum Daily BOD5 or TSS Concentration Limit (50 mg/l)

Average Monthly Mass Loading Limit for BOD_5 and TSS

$$L = C_{ML} * Q_P * 8.34 = 30 \text{ mg/l} * 3.2 \text{ MGD} * 8.34 = 801 \text{ lbs/day}$$

Average Weekly Mass Loading Limit for BOD_5 and TSS

$$L = C_{WL} * Q_P * 8.34 = 45 \text{ mg/l} * 3.2 \text{ MGD} * 8.34 = 1201 \text{ lbs/day}$$

Maximum Daily Mass Loading Limit for BOD_5 and TSS

$$L = CD_L * Q_P * 8.34 = 50 \text{ mg/l} * 3.2 \text{ MGD} * 8.34 = 1334 \text{ lbs/day}$$

Appendix B

Mass Loading Calculations for Effluent Limitations

Permittees with $CBOD_5$ limitations in lieu of BOD_5 limitations shall use the following effluent concentration values for $CBOD_5$ in the above equations:

C_{ML} = Average Monthly $CBOD_5$ Concentration Limit (25 mg/l)
C_{WL} = Average Weekly $CBOD_5$ Concentration Limit (40 mg/l)
C_{DL} = Maximum Daily $CBOD_5$ Concentration Limit (45 mg/l)

Appendix C

Total Residual Chlorine Limitation Example Calculations

Equation used to calculate average monthly and maximum daily limits.

Effluent Limit = Dilution Factor * Water Quality Criterion

Example 1: Discharge to Freshwater
Dilution Factor = 75
Freshwater acute criterion = 0.019 mg/l
Freshwater chronic criterion = 0.011 mg/l

Maximum Daily Limit = Dilution Factor * Acute Criterion = 75*0.019 mg/l = 1.43 mg/l

Monthly Average Limit = Dilution Factor * Chronic Criterion = 75 * 0.011mg/l = 0.83 mg/l

Because the calculated maximum daily limitation is greater than 1.0 mg/l, a limit of 1.0 mg/l, which is based on best professional judgment (BPJ) as described in Part III.E. of this fact sheet, is included in the permit in place of a limit based on water quality criteria.

Example 2: Discharge to Marine Water
Dilution Factor = 60
Marine acute criterion = 0.013 mg/l
Marine chronic criterion = 0.0075mg/l

Maximum Daily Limit = Dilution Factor * Acute Criterion = 60 * 0.013 mg/l = 0.78 mg/l

Monthly Average Limit = Dilution Factor * Chronic Criterion = 60 * 0.0075 mg/l = 0.45 mg/l

Appendix D

NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

NH, VT, and MA Discharges to the 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
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**

Appendix D

NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

NH, VT, and MA Discharges to the 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]
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
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

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NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

NH, VT, and MA Discharges to the 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]
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**
MASSACHUSETTS					
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

Appendix D

NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

NH, VT, and MA Discharges to the 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]
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
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**

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)

Appendix D

NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

MA Discharges to the 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**

Total Nitrogen Load = 2151 lbs/day
TMDL Baseline Load = 3,286 lbs/day
TMDL Allocation = 2,464 lbs/day (25% reduction)

MA Discharges to the 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
Webster	MA0100439	6.000	3.440	17.400	499.199
Massachusetts Totals		**11.820**	**7.660**		**1014.528**

Total Nitrogen Load = 1,015 lbs/day
TMDL Baseline Load = 1,253 lbs/day
TMDL Allocation = 939 lbs/day (25% reduction)

Appendix D

NH, VT, and MA POTW Discharges to Tributaries to Long Island Sound

Footnotes:

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 be equal to 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.