

DRAFT AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

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

**Division of Fisheries and Wildlife  
Commonwealth of Massachusetts**

is authorized to discharge from the facility located at

**Charles L. McLaughlin State Fish Hatchery  
90 East Street  
Belchertown, MA 01007**

to receiving water named

**Swift River- Chicopee River Basin (MA36-09)**

in accordance with conditions set forth herein.

This permit shall become effective on the first day of the calendar month following sixty (60) days after signature if comments are received. If no comments are received, this permit shall become effective on the date of signature.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit issued on September 26, 2007.

This permit consists of 12 pages in Part I including effluent limitations and monitoring requirements, and 25 pages in Part II Standard Conditions.

Signed this     day of     , 2013

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Ken Moraff, Acting Director  
Office of Ecosystem Protection  
Environmental Protection Agency  
Boston, MA

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David Ferris, Director  
Commonwealth of Massachusetts  
Massachusetts Wastewater Management  
Program  
Department of Environmental Protection  
Boston, MA

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

1. During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge fish culture water from outfall serial number 001 to the Swift River. Such discharges shall be monitored as specified below.

Parameter		Effluent Limitations		Monitoring Requirements	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	7.5	8.1	Daily <sup>1</sup>	Recorder
BOD <sub>5</sub>	mg/l lbs/d	--	10 584	2/Quarter <sup>2,3</sup>	Composite <sup>4</sup>
TSS	mg/l lbs/d	--	10 584	2/Quarter <sup>2,3</sup>	Composite <sup>4</sup>
Total Nitrogen, as N <sup>5</sup>	mg/l lbs/d	Report 32.4	Report	2/Quarter <sup>2,3</sup>	Composite <sup>4</sup>
Total Phosphorus, as P	mg/l	0.24	--	Monthly <sup>2,3</sup>	Composite <sup>4</sup>
pH	S.U.	6.5 – 8.3		Monthly <sup>2</sup>	Grab
Dissolved Oxygen, in-stream	mg/l	--	Report	1/Month <sup>6</sup>	Grab
Formaldehyde	mg/l	--	0.74	1/Event, when formalin is in use <sup>7</sup>	Grab
Dissolved Oxygen, effluent	mg/l	--	≥ 6.0	1/Event, when formalin is in use <sup>7</sup>	Grab

## Footnotes

1. Average monthly and maximum daily flows shall be reported. Measurement of influent flow is acceptable as there is no significant loss in the process.
2. Sampling for BOD<sub>5</sub>, TSS, Total Nitrogen, Total Phosphorus and pH shall be taken at Outfall 001 at the end of the tailrace prior to mixing with the receiving water.
3. During each calendar year, twice quarterly BOD<sub>5</sub>, TSS, and Total Nitrogen samples shall be taken following quiescent zone cleaning events. One (1) quarterly sample shall be collected following the annual pool breakdown event. During months when Total Phosphorus *and* BOD<sub>5</sub>, TSS, and Total Nitrogen monitoring is required, Total Phosphorus monitoring for the four parameters shall be conducted concurrently.

4. The composite samples shall consist of at least eight (8) grab samples collected at approximately equal intervals over twenty-four (24) hours. If raceways are vacuumed, a representative composite sample shall be taken during the vacuum cycle.
5. The mass-based average monthly Total Nitrogen limit is an annual average and shall be reported as a rolling average. The value shall be calculated using the current reporting period and previous three (3) reported quarterly values for Total Nitrogen in pounds per day and the annual average flow calculated using the current reporting period and previous eleven (11) months. Total Nitrogen shall be determined by performing the "total Kjeldahl Nitrogen (as N)" test and the "Nitrate-Nitrite (as N)" test and adding the two results together to produce a value of Total Nitrogen (in milligrams per liter).
6. In-stream dissolved oxygen shall be sampled at a location in the Swift River approximately 50 feet downstream of Outfall 001 once per month from May 1 to September 30. Minimum daily dissolved oxygen shall be reported.
7. Sampling for formaldehyde and effluent dissolved oxygen shall be conducted only during formalin use. Sampling is not required if formalin is not used and "No Discharge" shall be reported on the Discharge Monitoring Reports for that month. Grab samples for formaldehyde shall be taken from a location at the end of the raceway(s) being treated and the permittee shall demonstrate that the numeric limits will be met at Outfall 001 based on dilution in the aeration lagoons and after mixing with other wastestreams. Grab samples for dissolved oxygen shall be taken at the end of the tailrace prior at Outfall 001 to mixing with the receiving water.

**Part I.A. (cont.)**

2. The discharge shall not cause a violation of the water quality standards of the receiving waters.
3. The pH of the effluent shall not be less than 6.5 nor greater than 8.3 standard units (SU) and not more than 0.5 units outside of the natural background range. There shall be not change from natural background conditions that would impair any designated use assigned to a Class B water.
4. The discharge shall not cause objectionable discoloration of the receiving waters.
5. The effluent shall not contain visible oil sheen, foam, floating solids, or settleable solids at any time.
6. The results of sampling for any parameter above its required frequency must also be reported.

7. The permittee shall not discharge into the receiving water any pollutant or combination of pollutants in toxic amounts.
8. There shall be no discharge of untreated wastewaters when hydrogen peroxide is used or which result from cleaning accumulated solids in the raceways, culture tanks, screens, and associated equipment.
9. No components of the effluent shall result in any demonstrable harm to aquatic life or violate any water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards, with the permittee being so notified.
10. The permittee shall notify EPA and the State within twenty-four (24) hours upon the occurrence of a water quality induced mortality of greater than 25 percent in any aquatic species under culture at the facility in accordance with the reporting requirements in Standard Conditions, Part II.D.1.e.
11. Any change in: 1) the fish species to be raised at this facility or, 2) the development stage to be attained at this facility, will require written notification to EPA and MassDEP and possible permit modification.
12. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:
  - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
    - (1) One hundred micrograms per liter (100 ug/l);
    - (2) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2- methyl-4, 6- dinitrophenol; and one milligram per liter (1 mg/l) for antimony.
    - (3) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or
    - (4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f).
  - b. That any activity has occurred or will occur which would result in the discharge, on a non- routine or infrequent basis, of any toxic pollutant which

is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

- (1) Five hundred micrograms per liter (500 ug/l);
  - (2) One milligram per liter (1 mg/l) for antimony;
  - (3) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. § 122.21(g)(7); or
  - (4) Any other notification level established by the Director in accordance with 40 C.F.R. § 122.44(f).
- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application.
13. This permit shall be modified, or revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act, if the effluent standard or limitation so issued or approved:
- a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
  - b. controls any pollutant not limited by this permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.

## **B. NARRATIVE EFFLUENT LIMITATION REQUIREMENTS**

### **1. Drug Use**

Except as noted below, the permittee must notify EPA and the MassDEP in accordance with the following procedures of any investigational new animal drug (INAD) or extra-label drug use which may lead to a discharge of the drug to waters of the United States as stipulated below. However, reporting is not required for any INAD or extra-label drug use that has been previously approved by the US Food and Drug Agency (USFDA) for a different species or disease if the INAD or extra-label use is at or below the approved dosage and involves similar conditions of use.

- a. The permittee must provide to EPA and MassDEP a written report of the

impending use of INAD within seven (7) days of agreeing or signing up to participate in an INAD study. The written report must identify the INAD to be used, method of use, the dosage, and the disease or condition the INAD is intended to treat.

- b. For INAD's and extra-label drug uses, the permittee must provide an oral report to EPA and MassDEP as soon as possible, preferably in advance of use, but no later than seven (7) days after initiating use of that drug. The oral report must identify the drugs used, method of application, and the reason for using that drug.
  - c. For INAD's and extra-label drug uses, the permittee must provide a written report to EPA and MassDEP within thirty (30) days after initiating use of that drug. The written report must identify the drug used and include: the reason for treatment, date(s) and time(s) of the addition (including duration), method of application; and the amount added.
2. Structural Failure and/or Damage to Culture Units

The permittee must notify EPA and MassDEP in accordance with the following procedures when there is a "reportable failure" in, or damage to, the structure of an aquatic animal containment system (i.e., culture unit) or its wastewater treatment system that results in an unanticipated material discharge of pollutants to waters of the United States.

- a. For this facility, a "reportable failure" applies only to active culture units (ones that contain fish and flowing water) and their ancillary components and refers to the collapse or damage of a rearing unit or its wastewater treatment system; damage to pipes, valves, and other plumbing fixtures; and damage or malfunction to screens or physical barriers in the system, which would prevent the rearing unit from containing water, sediment (i.e., settled solids), and the aquatic animals being reared. Wastewater treatment systems include ponds or settling tanks to which cleaning water is directly discharged and culture units which are used for the temporary storage of settled solids removed from active culture units.
- b. The permittee must provide an oral report to EPA and MassDEP within twenty-four (24) hours of discovery of any reportable failure as defined in item 2.a. or damage that results in a material discharge of pollutants. The report shall describe the cause of the failure or damage in the containment system and identify materials that have been released to the environment as a result of that failure.
- c. The permittee must provide a written report to EPA and MassDEP within seven (7) days of discovery of the failure or damage documenting the cause, an estimate of the material released as a result of the failure or damage, and

steps being taken to prevent a recurrence.

### 3. Spills

In the event a spill of drugs, pesticides or feed occurs that results in a discharge to “waters” or “a water” of the United States, the permittee must provide an oral report of the spill to EPA and MassDEP within twenty-four (24) hours of its occurrence and a written report within seven (7) days to the above Agencies. The report shall include the identity and quantity of the material spilled.

### 4. Best Management Practices (BMP) Plan

The permittee must develop, implement, and maintain a BMP Plan (PLAN) on site that describes how the following requirements will be achieved. The permittee will make the current version of that PLAN available to EPA and/or the MassDEP upon request. The permittee shall implement the intent of the BMP following requirements upon the permit’s effective date. The permittee, however, has ninety (90) days following the permit’s effective date to certify in writing to EPA and MassDEP that a written PLAN has been developed in accordance with requirements listed in this part and must submit that certification with the appropriate DMR.

Further, the permittee shall amend the PLAN within thirty (30) days following any change in facility design, construction, operation, or maintenance which affects the potential for the discharge of pollutants into surface waters or after the EPA and/or MassDEP determine certain changes are required following an event that results in non-compliance, a facility inspection, or review of the PLAN. The permittee shall place in the PLAN a written documentation of each amended change along with a brief description stating the reason for the amendment, including the date of the change that triggered the amendment. The permittee shall also document what date the amended PLAN was implemented.

The PLAN must address, at a minimum, the following requirements:

#### a. Solids control

- i. Employ efficient feed management and feeding strategies that limit feed input to the minimum amount reasonably necessary to achieve production goals and sustain targeted rates of aquatic animal growth in order to minimize potential discharges of uneaten feed and waste products to waters of the United States.
- ii. In order to minimize the discharge of accumulated solids from settling tanks, basins and production systems, identify and implement procedures for routine cleaning of rearing units and settling tanks, and procedures to minimize any discharge of accumulated solids during the

inventorying, grading and harvesting of aquatic animals in the production system. Part I.A.8. prohibits the direct discharge of cleaning water absent some form of solids removal prior to discharge.

- iii. If any material is removed from the rearing units and/or settling tanks, describe where it is to be placed and the techniques used to prevent it from entering the surface waters from any on-site storage. If the material is removed from the site, describe who received the material and its method of disposal and/or reuse.
  - iv. Remove and dispose of aquatic animal mortalities properly on a regular basis to prevent discharge to waters of the United States, except in cases where EPA and MassDEP authorizes such discharges in order to benefit the aquatic environment.
- b. Biological control
- i. Describe in detail the precautions that will be exercised by the facility to prevent aquatic organisms that are neither indigenous nor naturalized to Massachusetts waters from becoming established in the local surface waters.
  - ii. Provide a description of any storage and/or treatment strategies designed to prevent biological pollution (non-indigenous organisms including fish parasites and fish pathogens and dead or dying fish) from entering the receiving water when the cultured fish population or a portion thereof are showing signs of stress.
- c. Materials Storage
- i. Ensure proper storage of drugs, pesticides, and feed in a manner designed to prevent spills that may result in the discharge of drugs, pesticides or feed to water of the United States.
  - ii. Implement procedures for properly containing, cleaning, and disposing of any spilled material.
- d. Structural Maintenance
- i. Inspect the production system and the wastewater treatment system on a routine basis in order to identify and promptly repair any damage.
  - ii. Conduct regular maintenance of the production system and the wastewater treatment system in order to ensure that they are properly functioning.

e. Recordkeeping

- i. In order to show how representative feed conversion ratios were calculated, maintain records documenting the feed amounts and estimates of the number and weight of aquatic animals for each rearing unit.
- ii. Keep records that document the frequency of cleaning, inspections, repairs and maintenance. In addition, records of all medicinal and chemical usage (i.e., for each occurrence) at the facility shall be recorded and filed in the PLAN to include the dosage concentration, frequency of application (hourly, daily, etc.) and the duration (hours, days) of treatment, and the method of application.

f. Training

- i. In order to ensure the proper clean-up and disposal of material, adequately train all relevant facility personnel in spill prevention and how to respond in the event of a spill.
- ii. Train staff on the proper operation and cleaning of production and wastewater treatment systems including training in feeding procedures and proper use of equipment.

g. Aquaculture Drugs and Chemicals Used for Disease Control and/or Prevention

List in the PLAN all aquaculture drugs and chemicals including all INAD and extra-label drugs and for each, identify:

- i. Product name and manufacturer.
- ii. Chemical formulation.
- iii. Purpose/reason for its use.
- iv. Dosage concentration, frequency of application (hourly, daily, etc.) and the duration (hours, days) of application.
- v. The method of application.
- vi. Material Safety Data Sheets (MSDS), Chemical Abstracts Service Registry number for each active therapeutic ingredient.
- vii. The method or methods, if any, used to detoxify the wastewater prior to its discharge.

- viii. Information on the persistence and toxicity in the environment.
- ix. Information on the USFDA approval for the use of said medication or chemical on fish or fish related products used for human consumption.
- x. Available aquatic toxicity data (vendor data, literature data, etc.); Lethal Concentration to 50 percent test organisms (LC<sub>50</sub>) at 48 and/or 96 hours and No Effect Level (NOEL) concentrations for typical aquatic organisms (salmon, trout, daphnia, fathead minnow, etc.).

## 5. General Definitions

- a. Approved Dosage - the dose of a drug that has been found to be safe and effective under the conditions of a new animal drug application.
- b. Aquatic Animal Containment System - a culture or rearing unit such as a raceway, pond, tank, net or other structure used to contain, hold or produce aquatic animals. The containment system includes structures designed to hold sediments and other materials that are part of a wastewater treatment system.
- c. Drug - any substance defined as a drug in section 201(g)(2) of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 321).
- d. Extra-label Drug Use - a drug approved under the Federal Food, Drug and Cosmetic Act that is not used in accordance with the approved label direction, see 21 CFR Part 530.
- e. Investigational New Animal Drug (INAD) - drug for which there is a valid exemption in effect under section 512(j) of the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. 360b(j), to conduct experiments.
- f. New Animal Drug Application - defined in 512(b)(1) of the Federal Food, Drug, and Cosmetic Act [21 U.S.C. 360(b)(1)].
- g. Pesticide - any substance defined as a "pesticide" in section 2(u) of the Federal Insecticide, Fungicide, and Rodenticide Act [7 U.S.C. 136(u)].

## C. MONITORING AND REPORTING

The permittee shall submit monitoring data and all other NPDES permit required reports to EPA electronically using NetDMR, a web-based tool that allows permittees to electronically submit discharge monitoring reports (DMRs) and other required reports via a secure internet connection. Specific requirements regarding submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

1. Submittal of Reports Using NetDMR

NetDMR is accessed from: <http://www.epa.gov/netdmr>. DMRs shall be submitted electronically to EPA no later than the 15th day of the month following the completed reporting period. All reports required under the permit shall be submitted to EPA, including the MassDEP Monthly Operations and Maintenance Report, as an electronic attachment to the DMR. A permittee submitting reports using NetDMR is no longer required to submit hard copies of DMRs or other reports to EPA and no longer required to submit hard copies of DMRs to MassDEP.

2. Submittal of Reports in Hard Copy Form

While we do not anticipate the need for the permittee to submit hard copies of reports to EPA, any hard copies that are submitted to EPA shall be submitted to the Director at the following address:

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

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

**Massachusetts Department of Environmental Protection  
Central Regional Office  
Bureau of Resource Protection  
627 Main Street  
Worcester, Massachusetts 01608**

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

**D. STATE PERMIT CONDITIONS**

1. This authorization to discharge includes two separate and independent permit authorizations. The two permit authorizations are (i) a federal National Pollutant Discharge Elimination System permit issued by the U.S. Environmental Protection Agency (EPA) pursuant to the Federal Clean Water Act, 33 U.S.C. §§1251 et seq.; and (ii) an identical state surface water discharge permit issued by the Commissioner of the Massachusetts Department of Environmental Protection (MassDEP) pursuant to the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and 314 C.M.R. 3.00. All of the requirements contained in this authorization, as well as the standard conditions contained in 314 CMR 3.19, are hereby incorporated by reference into this state surface water discharge permit.

2. This authorization also incorporates the state water quality certification issued by MassDEP under § 401(a) of the Federal Clean Water Act, 40 C.F.R. 124.53, M.G.L. c. 21, § 27 and 314 CMR 3.07. All of the requirements (if any) contained in MassDEP's water quality certification for the permit are hereby incorporated by reference into this state surface water discharge permit as special conditions pursuant to 314 CMR 3.11.
3. Each agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the agency taking such action, and shall not affect the validity or status of this permit as issued by the other agency, unless and until each agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of state law such permit shall remain in full force and effect under federal law as a NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of federal law, this permit shall remain in full force and effect under state law as a permit issued by the Commonwealth of Massachusetts.

NPDES PART II STANDARD CONDITIONS  
(January, 2007)

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NPDES PART II STANDARD CONDITIONS  
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PART II. A. GENERAL REQUIREMENTS

1. Duty to Comply

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

- a. The permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirements.
- b. The CWA provides that any person who violates Section 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any of such sections in a permit issued under Section 402, or any requirement imposed in a pretreatment program approved under Section 402 (a)(3) or 402 (b)(8) of the CWA is subject to a civil penalty not to exceed \$25,000 per day for each violation. Any person who negligently violates such requirements is subject to a fine of not less than \$2,500 nor more than \$25,000 per day of violation, or by imprisonment for not more than 1 year, or both. Any person who knowingly violates such requirements is subject to a fine of not less than \$5,000 nor more than \$50,000 per day of violation, or by imprisonment for not more than 3 years, or both.
- c. Any person may be assessed an administrative penalty by the Administrator for violating Section 301, 302, 306, 307, 308, 318, or 405 of the CWA, or any permit condition or limitation implementing any of such sections in a permit issued under Section 402 of the CWA. Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

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

2. Permit Actions

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

3. Duty to Provide Information

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

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4. Reopener Clause

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

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

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

5. Oil and Hazardous Substance Liability

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

6. Property Rights

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

7. Confidentiality of Information

- a. In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).
- b. Claims of confidentiality for the following information will be denied:
  - (1) The name and address of any permit applicant or permittee;
  - (2) Permit applications, permits, and effluent data as defined in 40 CFR §2.302(a)(2).
- c. Information required by NPDES application forms provided by the Regional Administrator under 40 CFR §122.21 may not be claimed confidential. This includes information submitted on the forms themselves and any attachments used to supply information required by the forms.

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8. Duty to Reapply

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

9. State Authorities

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

10. Other Laws

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

PART II. B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

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

2. Need to Halt or Reduce Not a Defense

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

3. Duty to Mitigate

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

4. Bypass

a. Definitions

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

## NPDES PART II STANDARD CONDITIONS

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

### b. Bypass not exceeding limitations

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provision of Paragraphs B.4.c. and 4.d. of this section.

### c. Notice

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

### d. Prohibition of bypass

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

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

## 5. Upset

- a. Definition. *Upset* means an exceptional incident in which there is an unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
- b. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the requirements of paragraph B.5.c. of this section are met. No determination made during

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

- c. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (1) An upset occurred and that the permittee can identify the cause(s) of the upset;
  - (2) The permitted facility was at the time being properly operated;
  - (3) The permittee submitted notice of the upset as required in paragraphs D.1.a. and 1.e. (Twenty-four hour notice); and
  - (4) The permittee complied with any remedial measures required under B.3. above.
- d. Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

**PART II. C. MONITORING REQUIREMENTS**

1. Monitoring and Records

- a. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- b. Except for records for monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR Part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application except for the information concerning storm water discharges which must be retained for a total of 6 years. This retention period may be extended by request of the Regional Administrator at any time.
- c. Records of monitoring information shall include:
  - (1) The date, exact place, and time of sampling or measurements;
  - (2) The individual(s) who performed the sampling or measurements;
  - (3) The date(s) analyses were performed;
  - (4) The individual(s) who performed the analyses;
  - (5) The analytical techniques or methods used; and
  - (6) The results of such analyses.
- d. Monitoring results must be conducted according to test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, unless other test procedures have been specified in the permit.
- e. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by

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

### 2. Inspection and Entry

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

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

## PART II. D. REPORTING REQUIREMENTS

### 1. Reporting Requirements

- a. **Planned Changes.** The permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is only required when:
  - (1) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR§122.29(b); or
  - (2) The alteration or addition could significantly change the nature or increase the quantities of the pollutants discharged. This notification applies to pollutants which are subject neither to the effluent limitations in the permit, nor to the notification requirements at 40 CFR§122.42(a)(1).
  - (3) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition or change may justify the application of permit conditions different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan.
- b. **Anticipated noncompliance.** The permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.
- c. **Transfers.** This permit is not transferable to any person except after notice to the Regional Administrator. The Regional Administrator may require modification or revocation and reissuance of the permit to change the name of the permittee and

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incorporate such other requirements as may be necessary under the CWA. (See 40 CFR Part 122.61; in some cases, modification or revocation and reissuance is mandatory.)

- d. Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.
- (1) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.
  - (2) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR Part 136 or, in the case of sludge use or disposal, approved under 40 CFR Part 136 unless otherwise specified in 40 CFR Part 503, or as specified in the permit, the results of the monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.
  - (3) Calculations for all limitations which require averaging or measurements shall utilize an arithmetic mean unless otherwise specified by the Director in the permit.
- e. Twenty-four hour reporting.
- (1) The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances.  
  
A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  - (2) The following shall be included as information which must be reported within 24 hours under this paragraph.
    - (a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See 40 CFR §122.41(g).)
    - (b) Any upset which exceeds any effluent limitation in the permit.
    - (c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Regional Administrator in the permit to be reported within 24 hours. (See 40 CFR §122.44(g).)
  - (3) The Regional Administrator may waive the written report on a case-by-case basis for reports under Paragraph D.1.e. if the oral report has been received within 24 hours.

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- f. Compliance Schedules. Reports of compliance or noncompliance with, any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.
  - g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under Paragraphs D.1.d., D.1.e., and D.1.f. of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D.1.e. of this section.
  - h. Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, it shall promptly submit such facts or information.
2. Signatory Requirement
- a. All applications, reports, or information submitted to the Regional Administrator shall be signed and certified. (See 40 CFR §122.22)
  - b. The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 2 years per violation, or by both.
3. Availability of Reports.

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

PART II. E. DEFINITIONS AND ABBREVIATIONS

1. Definitions for Individual NPDES Permits including Storm Water Requirements

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

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

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

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

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

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

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

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

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

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

*Construction Activities* - The following definitions apply to construction activities:

- (a) Commencement of Construction is the initial disturbance of soils associated with clearing, grading, or excavating activities or other construction activities.
- (b) Dedicated portable asphalt plant is a portable asphalt plant located on or contiguous to a construction site and that provides asphalt only to the construction site that the plant is located on or adjacent to. The term dedicated portable asphalt plant does not include facilities that are subject to the asphalt emulsion effluent limitation guideline at 40 CFR Part 443.
- (c) Dedicated portable concrete plant is a portable concrete plant located on or contiguous to a construction site and that provides concrete only to the construction site that the plant is located on or adjacent to.

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

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

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

*CWA* means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, and Pub. L. 97-117; 33 USC §§1251 et seq.

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

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

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

*Discharge of a pollutant* means:

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

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

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

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

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

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

*EPA* means the United States “Environmental Protection Agency”.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (a) From which there is or may be a “discharge of pollutants”;
- (b) That did not commence the “discharge of pollutants” at a particular “site” prior to August 13, 1979;
- (c) Which is not a “new source”; and
- (d) Which has never received a finally effective NPDES permit for discharges at that “site”.

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

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

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

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

*NPDES* means “National Pollutant Discharge Elimination System”.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- (1) is listed at 40 CFR §372.65 pursuant to Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) (also known as Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986);
- (2) is present at or above threshold levels at a facility subject to EPCRA Section 313 reporting requirements; and
- (3) satisfies at least one of the following criteria:
  - (i) are listed in Appendix D of 40 CFR Part 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols), or Table V (certain toxic pollutants and hazardous substances);
  - (ii) are listed as a hazardous substance pursuant to Section 311(b)(2)(A) of the CWA at 40 CFR §116.4; or
  - (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*Waters of the United States* means:

- (a) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of tide;
- (b) All interstate waters, including interstate “wetlands”;
- (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, “wetlands”, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
  - (1) Which are or could be used by interstate or foreign travelers for recreational or other purpose;
  - (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
  - (3) Which are used or could be used for industrial purposes by industries in interstate commerce;
- (d) All impoundments of waters otherwise defined as waters of the United States under this definition;
- (e) Tributaries of waters identified in Paragraphs (a) through (d) of this definition;
- (f) The territorial sea; and
- (g) “Wetlands” adjacent to waters (other than waters that are themselves wetlands) identified in Paragraphs (a) through (f) of this definition.

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

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

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

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

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

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

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

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

- (1) To provide the amount of nitrogen needed by the food crop, feed crop, fiber crop, cover crop, or vegetation grown on the land; and
- (2) To minimize the amount of nitrogen in the sewage sludge that passes below the root zone of the crop or vegetation grown on the land to the ground water.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*Domestic septage* is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

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

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

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

*Feed crops* are crops produced primarily for consumption by animals.

*Fiber crops* are crops such as flax and cotton.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*Range land* is open land with indigenous vegetation.

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

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

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

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

*Sewage sludge* is a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to: domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screening generated during preliminary treatment of domestic sewage in treatment works.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

3. Commonly Used Abbreviations

BOD	Five-day biochemical oxygen demand unless otherwise specified
CBOD	Carbonaceous BOD
CFS	Cubic feet per second
COD	Chemical oxygen demand
Chlorine	
Cl <sub>2</sub>	Total residual chlorine
TRC	Total residual chlorine which is a combination of free available chlorine (FAC, see below) and combined chlorine (chloramines, etc.)

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TRO	Total residual chlorine in marine waters where halogen compounds are present
FAC	Free available chlorine (aqueous molecular chlorine, hypochlorous acid, and hypochlorite ion)
Coliform	
Coliform, Fecal	Total fecal coliform bacteria
Coliform, Total	Total coliform bacteria
Cont. (Continuous)	Continuous recording of the parameter being monitored, i.e. flow, temperature, pH, etc.
Cu. M/day or M <sup>3</sup> /day	Cubic meters per day
DO	Dissolved oxygen
kg/day	Kilograms per day
lbs/day	Pounds per day
mg/l	Milligram(s) per liter
ml/l	Milliliters per liter
MGD	Million gallons per day
Nitrogen	
Total N	Total nitrogen
NH <sub>3</sub> -N	Ammonia nitrogen as nitrogen
NO <sub>3</sub> -N	Nitrate as nitrogen
NO <sub>2</sub> -N	Nitrite as nitrogen
NO <sub>3</sub> -NO <sub>2</sub>	Combined nitrate and nitrite nitrogen as nitrogen
TKN	Total Kjeldahl nitrogen as nitrogen
Oil & Grease	Freon extractable material
PCB	Polychlorinated biphenyl
pH	A measure of the hydrogen ion concentration. A measure of the acidity or alkalinity of a liquid or material
Surfactant	Surface-active agent

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

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

**FACT SHEET**

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

**NPDES PERMIT NUMBER:** MA0110043

**PUBLIC NOTICE START AND END DATES:** Oct 30, 2013 thru Nov 28, 2013

**NAME AND MAILING ADDRESS OF APPLICANT:**

Division of Fisheries and Wildlife  
Commonwealth of Massachusetts  
90 East Street  
Belchertown, MA 01007

**NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:**

Charles L. McLaughlin State Fish Hatchery  
90 East Street  
Belchertown, MA 01007

**RECEIVING WATER(S):**

Swift River (MA36-09)

**RECEIVING WATER CLASSIFICATION(S):** Class B, Cold Water Fishery

**SIC CODE:** 0921

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**I. Proposed Action, Type of Facility, and Discharge Location**

The Massachusetts Division of Fisheries and Wildlife (MassWildlife or the permittee) operates a state fish hatchery in Belchertown, MA (see Attachment A for site location) primarily engaged in the production of brook, brown, and rainbow trout to support stocking in Massachusetts river and lakes.

MassWildlife has applied to the U.S. Environmental Protection Agency (EPA) for reissuance of its NPDES permit to discharge into the Swift River. The previous permit was issued on September 26, 2007 and expired on November 30, 2012. EPA received a permit renewal application from MassWildlife dated May 18, 2012. Since the permit renewal application was deemed timely and complete by EPA, the permit has been administratively continued until a new permit becomes effective.

**II. Description of Facility and Discharge**

MassWildlife (the Division) engages in the production of brook trout, brown trout, and rainbow trout to support the Division’s trout stocking program. Brown and rainbow trout are raised from egg to stocking-sized yearling fish. The hatchery raises fingerling brook, brown, and rainbow trout for the

Montague and Sunderland State Trout Hatcheries. McLaughlin does not maintain broodstock fish for egg production but obtains trout eggs from federal and state hatcheries that meet the Division's strict disease certification standards. The facility consists of an indoor hatch house, 20 outdoor concrete raceways, and two treatment ponds (see line flow diagram included as Attachment B to the Fact Sheet).

A concentrated aquatic animal production (CAAP) facility based on criteria found in 40 C.F.R. § 122.24(b) and 40 C.F.R. Part 122 Appendix C is defined as a hatchery, fish farm, or other facility that "contains, grows, or holds cold water fish species or other cold water aquatic animals in ponds, raceways, or other similar structures which discharge at least 30 days per year but does not include facilities which produce less than 9,090 harvest weight kilograms (approximately 20,000 pounds) of aquatic animals per year; and facilities which feed less than 2,272 kilograms (approximately 5,000 pounds) of food during the calendar month of maximum feeding." According to MassWildlife, annual production is estimated at 500 pounds (lbs) of brook trout, 12,210 pounds of brown trout, and 216,272 pounds of rainbow trout. During the month of maximum feeding (December), the facility estimates use of 39,414 lbs of feed. Based on their production levels and feed use, as well as monthly Discharge Monitoring Reports (DMRs), the facility will likely discharge more than 30 days per year and produce more than 20,000 lbs harvest weight of fish per year during the next permit cycle. Therefore the McLaughlin Fish Hatchery is defined as a CAAP facility according to the regulations at 40 C.F.R. § 122.24(c) and discharge must be authorized by a NPDES permit.

Discharges from CAAP operations like McLaughlin Fish Hatchery typically contain organic and inorganic solids, nutrients, and chemicals used in the prevention and treatment of various diseases. Any of these constituents could impair the water quality in the receiving water. Dissolved and particulate solids in the discharge result from fish feces and uneaten food particles. Nutrients, such as phosphorus and nitrogen, are associated with these solids. The presence of nutrients can result in excessive growth of any or all of the three main algae types: phytoplankton (floating freely in water column), periphyton (attached to aquatic vegetation or other structures) and benthic (attached to bottom sediments). The decay of organic solids resulting from excessive concentrations of solids and nutrients can cause low levels of dissolved oxygen in the receiving water.

### **III. Receiving Water Description**

The Swift River (MA36-09) is a Class B waterbody and cold water fishery under the Massachusetts Surface Water Quality Standards (314 C.M.R. 4.06). Class B waters are designated as a habitat for fish, other aquatic life, and wildlife, including for their reproduction, migration, growth and other critical functions, and for primary and secondary contact recreation. These waters shall have consistently good aesthetic value [314 C.M.R. 4.05(3)(b)].

Section 303(d) of the Federal Clean Water Act (CWA) requires states to identify those waterbodies that are not expected to meet surface water quality standards after the implementation of technology-based controls. The Swift River is listed as Category 2 water ("attaining some uses, other uses not assessed") in the 2012 303(d) list (Massachusetts Year 2012 Integrated List of Waters). The Swift River supports aquatic life, aesthetics, primary contact recreation, and secondary contact recreation. In the 2003 Chicopee Basin Watershed Assessment, the Swift River was identified as supporting aquatic life due to overall good water quality and presence of several age classes of brook trout, but was given an alert status based on low pH levels.

#### **IV. Limitations and Conditions**

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

#### **V. Permit Basis: Statutory and Regulatory Authority**

The CWA prohibits the discharge of pollutants to waters of the United States without a National Pollutant Discharge Elimination System (NPDES) permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. The draft NPDES permit was developed in accordance with various statutory and regulatory requirements established pursuant to the CWA and applicable State regulations. The regulations governing the EPA NPDES permit program are generally found at 40 C.F.R. Parts 122, 124, 125, and 136. In this permit EPA considered (a) technology-based requirements, (b) water quality-based requirements, and (c) all limitations and requirements in the current/existing permit, when developing the permit limits.

##### **1. Technology-Based Requirements**

Subpart A of 40 C.F.R. § 125 establishes criteria and standards for the imposition of technology-based treatment requirements in permits under Section 301(b) of the CWA, including the application of EPA promulgated effluent limitations and case-by-case determinations of effluent limitations under Section 402(a)(1) of the CWA.

Technology-based treatment requirements represent the minimum level of control that must be imposed under Sections 301(b) and 402 of the CWA (see 40 CFR §125 Subpart A) to meet best practicable control technology currently available (BPT) for conventional pollutants and some metals, best conventional control technology (BCT) for conventional pollutants, and best available technology economically available (BAT) for toxic and non-conventional pollutants. In general, technology-based effluent guidelines for non-POTW facilities must have been complied with as expeditiously as practicable but in no case later than three years after the date such limitations are established and in no case later than March 31, 1989 [See 40 CFR §125.3(a)(2)]. Compliance schedules and deadlines not in accordance with the statutory provisions of the CWA can not be authorized by a NPDES permit.

On August 23, 2004, EPA promulgated technology-based effluent limitations guidelines (ELGs) for the Concentrated Aquatic Animal Production (CAAP) Point Source Category at 40 C.F.R. Part 451, Subpart A, Flow-through and Recirculating Systems Subcategory for facilities that contain, hold, or produce more than 100,000 pounds of aquatic animals per year (69 FR 51906). Compliance with the newly promulgated effluent limitations guidelines for fish hatcheries is, effectively, from date of permit issuance [See 69 Federal Register 162, August 23, 2004 Part I.E]. The promulgated ELGs contain narrative effluent limitations with specific provisions for solids control, materials storage, structural maintenance, recordkeeping, and training. The ELGs are applicable at the McLaughlin Fish Hatchery because the facility produces more than 100,000 pounds of aquatic animals per year.

The effluent monitoring requirements have been established to yield data representative of the

discharges under the authority of Section 308(a) of the CWA, according to regulations set forth at 40 C.F.R. §§ 122.41(j), 122.44(i) and 122.48. The approved analytical procedures are to be found in 40 C.F.R. § 136 unless other procedures are explicitly required in the permit.

## 2. Water Quality-Based Requirements

Section 301(b)(1)(C) of the CWA requires that effluent limitations based on water quality considerations be established for point source discharges when such limitations are necessary to meet state or federal water quality standards that are applicable to the designated receiving water. This is necessary when technology-based limitations would interfere with the attainment or maintenance of water quality in the receiving water.

Under Section 301(b)(1)(C) of the CWA and EPA regulations, NPDES permits must contain effluent limits more stringent than technology-based limits where more stringent limits are necessary to maintain or achieve state or federal water quality standards. Water quality standards consist of three parts: (1) beneficial designated uses for a waterbody or a segment of a waterbody; (2) numeric and/or narrative water quality criteria sufficient to protect the assigned designated use(s); and (3) antidegradation requirements to ensure that once a use is attained it will not be degraded. The Massachusetts Surface Water Quality Standards, found at 314 C.M.R. 4.00, include these elements. The state will limit or prohibit discharges of pollutants to surface waters to assure that surface water quality standards of the receiving waters are protected and maintained or attained. These standards also include requirements for the regulation and control of toxic constituents and require that EPA criteria, established pursuant to Section 304(a) of the CWA, shall be used unless a site specific criteria is established.

The Draft Permit must limit any pollutant or pollutant parameter (conventional, non-conventional, and toxic) that is or may be discharged at a level that causes or has the "reasonable potential" to cause or contribute to an excursion above any water quality standard (40 C.F.R. § 122.44(d)). An excursion occurs if the projected or actual in-stream concentration exceeds an applicable water quality criterion. In determining "reasonable potential", EPA considers: (1) existing controls on point and non-point sources of pollution; (2) pollutant concentration and variability in the effluent and receiving water as determined from the permit's re-issuance application, monthly discharge monitoring reports (DMRs), and State and Federal Water Quality Reports; (3) sensitivity of the indicator species used in toxicity testing; (4) known water quality impacts of processes on waste waters; and (5) where appropriate, dilution of the effluent in the receiving water.

## 3. Antibacksliding

Antibacksliding as defined in 40 C.F.R. § 122.44(l)(1) requires reissued permits to contain limitations as stringent or more stringent than those of the previous permit unless the circumstances allow application of one of the defined exceptions to this regulation. As explained above, antibacksliding applies to limits contained in the existing permit and, effluent limits in the Draft Permit are as stringent as or more stringent than the current permit.

## 4. Antidegradation

The Commonwealth of Massachusetts' antidegradation provisions found in 314 C.M.R. 4.04 ensure that provisions in 40 C.F.R. § 131.12 are met. These provisions ensure that all existing uses in the

receiving water, along with the level of water quality necessary to protect those existing uses, are maintained and protected. The effluent limits in the Draft Permit should ensure that provisions in 314 C.M.R. 4.04 are met. The State is also asked to certify that the antidegradation provisions in State law are met. EPA anticipates that the MassDEP shall make a determination that there shall be no significant adverse impacts to the receiving water and no loss of existing uses as a result of the discharge authorized by this permit.

## 5. State Certification

Under Section 401 of the CWA, EPA is required to obtain certification from the state in which the discharge is located that all water quality standards or other applicable requirements of state law, in accordance with Section 301(b)(1)(C) of the CWA, are satisfied. EPA permits are to include any conditions required in the state's certification as being necessary to ensure compliance with state water quality standards or other applicable requirements of state law. See CWA Section 401(a) and 40 CFR §124.53(e). Regulations governing state certification are set out at 40 CFR §124.53 and §124.55. EPA regulations pertaining to permit limits based upon water quality standards and state requirements are contained in 40 CFR §122.44(d).

## VI. Explanation of the Permit's Effluent Limitation(s)

### 1. Facility Information

The primary activities at the McLaughlin Hatchery include year-round production of brook, brown, and rainbow trout for stocking rivers and lakes. The facility consists of a hatch house, 20 concrete raceways, and two treatment lagoons. The hatchery also maintains two display pools for public viewing.

Eggs are incubated and grown to fry in the small raceways in the hatchery house. Trout fry are then transferred to the outdoor concrete raceways or to other state hatcheries for growing out to stockable size. The McLaughlin Hatchery produces brown and rainbow trout for stocking; brook trout are shipped as fry to other state hatcheries for grow out.

Production begins in September and peaks in spring. The hatchery uses a continuous flow-through system supplied by a combination of water supplied by four gravel packed wells and water from the Swift River. Groundwater is used for egg production, in the hatch house raceways, in the 2 display pools, and in the outdoor raceway series 1 to 4. In the hatch house, located in the main hatchery building, eggs are incubated and fry are reared to fingerling sized (about two inches) in 22 concrete raceways. When they reach fingerling size, fish are moved to outdoor raceways or transported to another of the Division's hatcheries. Overflow from the hatch house raceways is re-used in the outside raceways series 1 to 4, which are used exclusively for rearing brown trout. During cleaning, effluent from the hatch house raceways is sent directly to the treatment lagoons via a floor drain located in the quiescent zone at the end of each raceway. Additional groundwater from well #4 may be mixed with the river water intake that supplies the outdoor raceway series 5 to 20 in order to adjust temperature.

River water is pumped from the Swift River about 100 feet upstream of the discharge and flows, untreated, via gravity through the concrete raceway series 5 to 20, which are used for rearing rainbow

trout. The hatchery pump house has three 350 horsepower pumps each equipped with a variable frequency drive to adjust pump rate. At the maximum pump rate, two pumps are operated simultaneously and average intake is about 2300 gallons per minute (gpm). The intake is covered by a series of two bar racks, one at the river bank and one in front of the intake pipe.

Each outdoor raceway series has 10, 50-foot long pools separated by a screen and dam boards. Between the screen and damboard at each pool is a fish-free quiescent zone for solids settling. Floor drains piped directly to the waste treatment lagoons are located in every other quiescent zone in the river water raceways (5-20), and every quiescent zone except the last one in the well water raceways (1-4). Settled solids are flushed directly into the lagoon when the drain plug is removed. In quiescent zones not equipped with floor drains, the settled solids are removed with a sewage vacuum. Screens and dam boards are cleaned daily and quiescent zones are cleaned as frequently as possible but no less than every two weeks. After fish are harvested, individual pools are drained and solids are removed by flushing drains or with the vacuum pump. Pools are then cleaned with a brush and pressure washer before drying in the sun. Pools are not filled until needed for fish production.

Through-flow (“overtopping effluent”) from the concrete raceways discharges directly to a vegetated tailrace, which travels about 570 feet to the outfall at the Swift River. Effluent from the outdoor raceway drain plugs, vacuumed solids, and hatch house raceway floor drains is treated by a primary and secondary extended aeration lagoon system built in 1985. Effluent flows (or, in the case of vacuumed solids, is pumped) into the primary lagoon, overflows into the secondary lagoon, and finally flows via gravity through a pipe to the outfall where it mixes with the overtopping effluent before being discharged to the Swift River. According to the permittee, detention time in the lagoons is a minimum of 56 days. Monitoring is conducted at the end of the tailrace prior to combining with the Swift River after the hatchery through-flow and lagoon effluents have combined.

#### Chemicals, Drugs, and Disinfectants Currently Used at McLaughlin Hatchery

MassWildlife’s biosecurity procedures, including obtaining eggs and fish from certified disease free sources, covering outdoor raceways with nets to minimize contact with birds, using separate equipment for river and well water raceways, and limiting hatch house access, are designed to minimize the need for chemotherapeutic agents and medications. However, if a disease or parasitic outbreak occurs at the McLaughlin Fish Hatchery, a specific diagnosis is made by the Fish Pathologist and only drugs and chemicals approved by the U.S. Food and Drug Administration (FDA) for aquaculture or low regulatory priority drugs for aquaculture as regulated by the FDA are used. The hatchery follows all required FDA procedures and recommendations for use of any drugs or chemotherapeutic chemicals. Below is a list of all the chemicals/drugs that may be used at the McLaughlin Fish Hatchery along with their intended use.

37% formalin solution – for treatment of the FDA-approved species of external protozoan parasites and monogenetic trematodes on trout. Formalin has not been used at the hatchery in the past two permit cycles. Still, the Draft Permit retains limitations specific to the use of formalin should it be used in the future.

Oxytetracycline medicated feed – FDA approved use for treatment of ulcer disease, furunculosis, bacterial hemorrhagic septicemia and pseudomonas disease.

Sulfadimethoxine/ormetprim medicated feed (Romet 30) – FDA approved as medicated feed to treat furunculosis.

Hydrogen peroxide solution 35% (PEROX-AID®) – to control for the mortality of eggs due to saprolegniasis and bacterial gill disease of fish caused by *Flavobacterium branchiophilum*. FDA considers PEROX-AID® a low regulatory priority. All effluent treated with PEROX-AID® must be diverted to the treatment lagoons. Hydrogen peroxide decomposes into water and oxygen and the half-life in freshwater ranges from 8 hours to 20 days, which is less than the retention time calculated by the permittee, ensuring that the majority of hydrogen peroxide is decomposed prior to the effluent from the lagoons entering the Swift River.

NaCl solution 0.5-3% - as an osmoregulatory aid for the relief of stress and prevention of shock in transport tank when moving fish and as a dip treatment to reduce excess mucous on the skin of fish caused by a heavy parasite load. FDA considers NaCl solution to be a low regulatory priority drug.

Florfenicol – to treat coldwater disease and furunculosis in trout as an in-feed antibiotic.

All of the listed drugs that may be used at the McLaughlin Fish Hatchery are FDA-approved and administered in accordance with FDA recommendations. The Draft Permit contains effluent limitations that apply when formalin is in use. See section entitled “Use of Formalin” later in this Fact Sheet. The hatchery also may use sodium hypochlorite powder, sodium thiosulfate, and PVP iodine during sterilization and disinfection. None of the chemicals are discharged in the effluent: chlorine disinfection water is drained onto the hatchery lawn after being neutralized with sodium thiosulfate in a location where it will not enter the effluent and iodine is used for egg disinfection in the hatch house and drains to a domestic sewer.

## 2. Permitted Outfalls

The Draft Permit authorizes the discharge of culture water from Outfall 001 subject to the effluent limitations and best management practices described below. A brief summary of discharge data from the facility’s discharge monitoring reports from October 2007 to June 2013 is included in Attachment C.

## 3. Derivation of Effluent Limits

### Available Dilution

Water quality-based effluent limitations are established using available dilution. Title 314 C.M.R. 4.03(3)(a) requires that water quality criteria must be applied at the most severe hydrologic condition, which, for rivers and streams, is the lowest mean flow for seven consecutive days to be expected once in ten years (7Q10 flow). Available dilution is calculated based on the 7Q10 flow and the facility’s design flow.

The hatchery’s outfall is located on the Swift River about 1.5 miles downstream of the Winsor Dam on the Quabbin Reservoir. Because the dam maintains stream flow through controlled releases, a 7Q10 flow statistic is not applicable for the purposes of calculating available dilution. According to the 2003 Chicopee Basin Water Quality Assessment Report (MassDEP 2008),

“The Swift River begins at the Winsor Dam with flow regulated by the MWRA via a control structure in the Quabbin power plant. From 1 December through 31 May, MA DCR is required to release 20 MGD out of Quabbin Reservoir to the Swift River. From 1 June through 30 November, the required releases (per order of the US War Department) are dependent on the streamflow of the Connecticut River at the USGS Montague gage. When the flow of the Connecticut River is <4900 cfs, the required release at Quabbin Reservoir is 45 MGD and when the flow is <4650 cfs, the required release at Quabbin Reservoir is 71 MGD. In practice, however, the MA DCR releases either 20 or 71 MGD from the reservoir or more depending on reservoir operating conditions (Austin 1993).”

The “drought flow” used to calculate water quality-based effluent limitations considering available dilution is 20 MGD (31 cfs), which is equivalent to the minimum flow release from the Quabbin Reservoir. Assuming that the intake pumps river water at a rate equivalent to the maximum permitted daily flow of 8.1 MGD (12.5 cfs), the adjusted “drought flow” at the discharge is:

$$\text{Adjusted “drought flow”} = 31 \text{ cfs} - 12.5 \text{ cfs} = 18.5 \text{ cfs}$$

At the permitted maximum daily flow of 8.1 MGD (12.5 cfs), the dilution factor is:

$$\begin{aligned} \text{Dilution Factor} &= (\text{Facility Flow} + \text{adjusted “drought flow”})/\text{Facility Flow} \\ \text{Dilution Factor} &= (12.5 \text{ cfs} + 18.5 \text{ cfs})/12.5 \text{ cfs} = \mathbf{2.48} \end{aligned}$$

### Flow

The current permit includes a maximum daily limit of 8.1 MGD and average monthly flow limit of 7.5 MGD. During the last permit issuance, the average monthly flow limit was increased from 7.0 MGD to 7.5 MGD because the limit was exceeded on nine occasions (maximum average monthly flow at 7.3 MGD) between August 2002 and January 2004. According to DMR data submitted between October 2007 and June 2013, average monthly and maximum daily flow at McLaughlin State Fish Hatchery ranged from 2.9 to 7.0 MGD with a long-term average of 5.3 MGD (see Attachment C). The current permit limits were not exceeded. In accordance with antibacksliding regulations at 40 C.F.R. § 122.44(l), the average monthly and maximum daily flow limits have been carried forward in the Draft Permit. Daily monitoring may be conducted either at the outfall or from the influent, as there is little loss of flow through the hatchery.

### Biochemical Oxygen Demand (BOD<sub>5</sub>)

Biochemical oxygen demand (BOD<sub>5</sub>) is used to measure the amount of oxygen consumed by microorganisms when they decompose the organic matter in a waterbody. The greater the BOD, the greater the degree of pollution and the less oxygen available to aquatic life. The current permit includes mass- and concentration-based BOD<sub>5</sub> maximum daily limitations of 584 pounds per day (lbs/d) and 10 mg/l carried forward from the previous permit cycle. These limitations were based on Best Professional Judgment (BPJ) from a review of effluent data from CAAP facilities located in Massachusetts and New Hampshire, as well as review of general NPDES permits developed for similar facilities in Idaho, Oregon and South Carolina. Recently re-issued permits for CAAP facilities in Massachusetts and New Hampshire include BOD<sub>5</sub> limits no more stringent than these

limits.

According to twice quarterly DMR data between October 2007 and June 2013, the maximum daily mass of BOD<sub>5</sub> ranged from 52 to 223 lbs/d at an average of 128 lbs/d. The maximum daily BOD<sub>5</sub> concentration ranged from 2.1 to 4.8 mg/l at an average of 2.8 mg/l (see Attachment C). Neither the mass- or concentration-based limits were exceeded in the last permit cycle.

In accordance with antibacksliding regulations at 40 C.F.R. § 122.44(l)(1), the maximum daily BOD<sub>5</sub> mass-based and concentration-based limits and have been carried forward in the Draft Permit.<sup>1</sup> The current mass-based permit limits were based on an average monthly flow limit of 7.0 MGD (from the previous permit, not the currently permitted average monthly flow limit of 7.5 MGD), consistent with antidegradation and antibacksliding provisions. In addition, the Draft Permit includes a requirement to monitor in-stream dissolved oxygen during summer when decomposition rates tend to be high. In combination with the BOD<sub>5</sub> limits, this monitoring will further ensure that dissolved oxygen in the Swift River meets water quality standards. The Draft Permit requires twice quarterly composite monitoring at Outfall 001.

#### Total Suspended Solids (TSS)

The current permit includes mass- and concentration-based maximum daily TSS limitations of 584 lbs/d and 10 mg/l carried forward from the previous permit cycle (see Footnote 1). These limitations were based on Best Professional Judgment (BPJ) from a review of effluent data from CAAP facilities located in Massachusetts and New Hampshire, as well as review of general NPDES permits developed for similar facilities in Idaho, Oregon and South Carolina. Recently re-issued permits for CAAP facilities in Massachusetts and New Hampshire include TSS limits no more stringent than these limits.

According to twice quarterly DMR data between October 2007 and June 2013, the maximum daily mass of TSS ranged from 30 to 239 lbs/d at an average of 121 lbs/d. The maximum daily TSS concentration ranged from 1.2 to 5.2 mg/l at an average of 2.6 mg/l (see Attachment C). Neither the mass- or concentration-based limits were exceeded in the last permit cycle.

In accordance with antibacksliding regulations at 40 C.F.R. § 122.44(l)(1), the maximum daily TSS limits have been carried forward in the Draft Permit. The current mass-based permit limits were based on an average monthly flow limit of 7.0 MGD (from the previous permit, not the currently permitted average monthly flow limit of 7.5 MGD), consistent with antidegradation and antibacksliding provisions. The current permit requires twice quarterly composite monitoring at Outfall 001.

#### pH

Massachusetts Surface Water Quality Standards for Class B waters at 314 C.M.R. 4.05(3)(b)(3) require a pH in the range of 6.5 to 8.3 standard units (s.u.). According to DMR data from October 2007 through June 2013, the pH at McLaughlin State Fish Hatchery ranged from 6.5 to 7.1 s.u. at an average of 6.8 s.u. (see Attachment C). In accordance with antibacksliding regulations at 40 C.F.R. §

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<sup>1</sup> Maximum Daily BOD and TSS = 7.0 MGD \* 10 mg/L \* 8.3379 (conversion factor) = 584 lbs/d

122.44(l), the water quality-based limits for pH range has been carried forward in the Draft Permit.

### Nutrients

Massachusetts Surface Water Quality Standards at 314 CMR 4.05(5)(c) state “Unless naturally occurring, all surface waters shall be free from nutrients in concentrations that would cause or contribute to impairment of existing or designated uses and shall not exceed the site specific criteria developed in a TMDL or as otherwise established by the Department pursuant to 314 CMR 4.00.”

Fish hatcheries have the potential to contribute nutrients (primarily nitrogen and phosphorus) to receiving waters. Nutrients are a pollutant of concern in fish hatchery wastewater, and the current permit requires twice quarterly reporting of maximum daily total nitrogen, an average monthly total ammonia (as N) limit of 4.2 mg/l, and an average monthly total phosphorus limit of 0.26 mg/l.

### *Ammonia*

In receiving waters, oxidation of ammonia by nitrifying bacteria can deplete oxygen concentrations and impact aquatic life. At elevated concentrations, ammonia can be toxic to aquatic life. According to the current permit’s fact sheet, the numeric limit for ammonia was carried forward from the previous permit and based on protecting in-stream dissolved oxygen levels. However, the previous fact sheet (2001) states that the numeric limit of 4.2 mg/l is based on the chronic water quality criteria for ammonia in freshwater systems as defined in the 1999 Update of Water Quality Criteria for Ammonia. In 2013, EPA issued revised ammonia water quality criteria that included new data on freshwater mussels and non-pulmonate snails, in addition to the updated information for species upon which the 1999 criteria were based. EPA recommends a single national acute and a single national chronic criterion be applied to all waters rather than different criteria based on the presence or absence of mussels. According to the 2013 Aquatic Life Ambient Water Quality Criteria for Ammonia-Freshwater, the freshwater chronic criterion for total ammonia nitrogen is 1.9 mg/l, which is a 2.4 fold decrease compared to the 1999 criterion.

In the past two permit cycles (February 2002 to June 2013), average monthly concentration of ammonia has ranged from 0.09 mg/l to 0.98 mg/l with a long-term average of 0.44 mg/l, which is consistently well below the current permit limit of 4.2 mg/l. Based on more than 10 years of twice quarterly monitoring data, EPA completed a statistical analysis of the maximum estimated (99<sup>th</sup> percentile) total ammonia concentration at the hatchery (1.4 mg/l without dilution). Limited monitoring of this reach of the Swift River by MassDEP indicates that total ammonia is relatively low (0.02 to 0.15 mg/l). Using the maximum in-stream background value of 0.15 mg/l and a maximum estimated effluent concentration of 1.4 mg/l at the maximum daily permitted discharge flow and adjusted drought flow results in an estimated “worst-case” in-stream total ammonia concentration of 0.6 mg/l. EPA concludes that the discharge of ammonia from the McLaughlin State Fish Hatchery does not have a reasonable potential to cause or contribute to toxicity relative to either the 1999 criterion on which the current permit limit was based on the updated, more stringent 2013 criterion.

Based on this new information and consistent with antibacksliding provisions at 40 CFR §122.44(l)(2)(i)(B)(I), EPA has determined that the average monthly limit for total ammonia from the current permit is not necessary to ensure protection from chronic ammonia toxicity. However, the

current permit limit also states that the numeric ammonia limit is based on protecting in-stream dissolved oxygen levels. Nitrification, the biological oxidation of ammonia, depletes dissolved oxygen and is likely to be highest during the summer when higher temperatures encourage growth of nitrifying bacteria. In this case, in-stream DO levels are better protected by directly monitoring in-stream dissolved oxygen levels during the summer. Therefore, in place of the average monthly numeric ammonia limit (which was calculated to ensure protection from toxicity, and does not appear to be related to dissolved oxygen levels), the Draft Permit has added a maximum daily limit for in-stream dissolved oxygen that applies from May 1 through September 30 (see section entitled “In-stream Dissolved Oxygen” below).

### *Total Nitrogen*

The Swift River, in the Chicopee River watershed, flows to the Connecticut River and, ultimately, to Long Island Sound. Long Island Sound experiences low levels of dissolved oxygen (hypoxia) that can exceed water quality standards and impair the function and health of the Sound. The low dissolved oxygen levels are linked to excessive human-generated sources of nitrogen, including from the Connecticut River. To protect Long Island Sound and improve water quality conditions, Connecticut and New York have developed a total maximum daily load (TMDL) for Long Island Sound that specifies a 58.5% reduction in nitrogen load from Connecticut and New York and requires additional action to reduce nitrogen loading from sources north of the state of Connecticut, including Massachusetts.<sup>2</sup>

The TMDL included a waste load allocation (WLA) for point sources and a load allocation (LA) for non-point sources. The point source WLA for out-of-basin sources (Massachusetts, New Hampshire and Vermont wastewater facilities discharging to the Connecticut, Housatonic and Thames River watersheds) requires an aggregate 25 percent reduction from the baseline total nitrogen loading estimated in the TMDL. The Connecticut Department of Energy & Environmental Protection (CTDEEP) also 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 DEEP) and the Fact Sheet for the 2010 Reissuance of the Privately Owned Treatment Works General Permit (EPA pp. 19-21). EPA considers facilities discharging more than 35 lbs/day of total nitrogen to these receiving waters significant sources of nitrogen which could subject a facility to more stringent requirements or numeric limits for nitrogen.

Because the effluent from the McLaughlin Hatchery discharges to the Swift River, which joins the Chicopee River and then the Connecticut River in Chicopee, MA, EPA considered the nitrogen load from the hatchery with respect to the continued efforts to reduce nitrogen loading in the Connecticut River watershed. The current permit’s reporting of total nitrogen enables EPA to estimate total nutrient loadings to the watershed.

EPA typically utilizes the average total nitrogen from the previous 12 consecutive samples to determine a Facility’s baseline nitrogen load. For the current permit term, McLaughlin Hatchery reported total nitrogen (calculated by performing the “total Kjeldahl Nitrogen (as N)” test and the “Nitrate-Nitrite (as N)” test and adding the two results together to produce a value of Total Nitrogen)

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<sup>2</sup> A Total Maximum Daily Load Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound. December 2000. Prepared by New York State Department of Environmental Conservation and Connecticut State Department of Environmental Protection. <http://longislandsoundstudy.net/wp-content/uploads/2010/03/Tmdl.pdf>

at a monitoring frequency of quarterly for a total of 22 monthly average observations. EPA evaluated the estimated nitrogen loading based on current average concentration of total nitrogen and current flow limitation using available nitrogen data collected from August 2010 to May 2013 shown in Table 1 below.

**Table 1: Summary of Nitrogen Data for the Facility**

Monitoring Period End Date	Total Nitrogen (Maximum Daily) (mg/L)
8/31/2010	0.25
11/30/2010	0.12
2/28/2011	0.23
5/31/2011	0.15
8/31/2011	0.39
11/30/2011	1.19
2/29/2012	0.13
5/31/2012	0.14
8/31/2012	0.85
11/30/2012	1.39
2/28/2013	1.02
5/31/2013	0.61
<b>AVERAGE</b>	<b>0.48</b>

Using these data, the Facility's nitrogen mass load is as follows:

Mass Loading (lbs/day) = Average N Concentration (mg/L)\*Flow (MGD)\*8.34 (conversion factor)

Therefore: Mass Loading, current flow = (0.48 mg/L)\*(8.1 MGD)\*(8.34) = **32.4 lbs/day**

These loadings indicate that the Facility will not exceed the threshold of 35 lbs/day for nitrogen if future concentrations are similar to current quarterly concentrations. Therefore, the Draft Permit requires the Facility to maintain the current mass discharge loading of total nitrogen (i.e., 32.4 lbs/day), and report total nitrogen twice per quarter. Compliance with the baseline load will be calculated on an annual basis using the current reporting period maximum daily value and previous three reported quarterly maximum daily values for Total Nitrogen in pounds per day and the annual average flow calculated using the maximum daily flow from the current reporting period and previous eleven months.

There have been significant efforts by the New England Interstate Water Pollution Control Commission (NEIWPCC) work group and others since completion of the 2000 TMDL, which are anticipated to result in revised wasteload allocations for in-basin and out-of-basin facilities. In the event of a revised TMDL, nitrogen monitoring data indicating the need for additional nitrogen limitations, or other new information, the permit may be modified pursuant to 40 C.F.R. § 122.62.

### *Total Phosphorus*

The current permit included a monthly average total phosphorus limit of 0.26 mg/l, which is more stringent than the previous maximum daily limit of 1.0 mg/l. The current limit was based on achieving an in-stream total phosphorus concentration of 0.1 mg/l in the Swift River at low-flow conditions adjusted for facility withdrawals using the average monthly flow limit of 7.5 MGD (11.6 cfs). The in-stream target of 0.1 mg/l was derived by the Commonwealth of Massachusetts from federal water quality criteria designed to avoid excessive nutrient enrichment in flow streams (“Gold Book”). The current permit used average monthly flow, rather than maximum daily flow, which is not representative of “worst-case” conditions.<sup>3</sup> For the development of this Draft Permit, the total phosphorus limit was re-calculated using values representative of “worst-case” low-flow conditions and effluent conditions (maximum daily flow). The calculation of the limit included an estimate of 0.0025 mg/l (half the detection limit) for background phosphorus based on non-detect water quality monitoring results for the Quabbin Reservoir. Water Quality Updates from the MWRA for the Quabbin Reservoir (raw water) from May 2011 through May 2013 confirm that total phosphorus in the Quabbin continues to consistently be undetected at the reporting limit of 0.05 mg/l.

$$C_{\text{discharge}} = (Q_{\text{downstream}} * C_{\text{target}}) - (Q_{\text{upstream}} * C_{\text{upstream}}) / Q_{\text{discharge}}$$
$$C_{\text{discharge}} = (31 \text{ cfs} * 0.1 \text{ mg/l}) - (18.5 \text{ cfs} * 0.0025 \text{ mg/l}) / (12.5 \text{ cfs})$$
$$C_{\text{discharge}} = \mathbf{0.24 \text{ mg/l}}$$

According to monthly DMR data between December 2007 and June 2013, the average monthly total phosphorus concentration ranged from 0.07 to 0.51 mg/l at an average of 0.14 mg/l (see Attachment C). The current average monthly permit limit of 0.26 mg/l was exceeded on 4 occasions (January through April, 2008) but has not been exceeded since that time; nonetheless, there is clearly a reasonable potential to exceed the in-stream concentration of 0.1 mg/l at the hatchery. EPA has applied an average monthly total phosphorus limit of 0.24 mg/l in the Draft Permit.

### In-stream Dissolved Oxygen

The Draft Permit requires seasonal monitoring and reporting of the minimum daily in-stream dissolved oxygen level. The Massachusetts Surface Water Quality standards at 314 CMR 4.05(3)(b)(1)(a), which state “shall not be less than 6.0 mg/l in cold water fisheries and not less than 5.0 mg/l in warm water fisheries. Where natural background conditions are lower, DO shall not be less than natural background conditions. Natural seasonal and daily variations that are necessary to protect existing and designated uses shall be maintained.” The current permit includes a limit for ammonia, which, according to the Fact Sheet, was carried forward from the previous permit and is based on protecting in-stream dissolved oxygen levels. However, the previous permit’s Fact Sheet (2001) states that the numeric limit is based on the chronic water quality criteria for ammonia in freshwater systems (see discussion in section entitled “Nutrients,” above). Since there is no reasonable potential to cause or contribute to ammonia toxicity at the hatchery, EPA has eliminated the ammonia limit in the Draft Permit.

The reporting requirement for in-stream dissolved oxygen was added to the Draft Permit to ensure

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<sup>3</sup> According to the NPDES Permit Writers Manual (2010) “when using a steady-state model, the permit writer, or water quality modeler, determines the impact of the effluent discharge on the receiving water under critical conditions.”

that water quality standards are met and that in-stream dissolved oxygen levels are protective of aquatic life. Monitoring is required from May 1 through September 30, when ambient temperatures are likely to be at a maximum and growth of nitrifying bacteria, which can deplete oxygen levels, would be highest. The permittee is required to monitor in-stream DO levels once per month during the summer.

### Use of Formalin

CAAP facilities commonly use biocides, the most common of which are formalin products such as Paracide-F, Formalin-F or Parasite-S, which contain approximately 37 % by weight of formaldehyde gas. Formalin is used for the therapeutic treatment of fungal infections on the eggs of finfish and to control certain external protozoa and monogenetic trematodes on all finfish species. Because it is formulated to selectively kill or remove certain attached organisms, but not the finfish themselves when properly applied, formalin is more toxic to invertebrate species than to vertebrates. When setting the necessary permit limits to protect the receiving water's aquatic environment from the effects of formalin in a discharge, it is more important to develop limits to protect invertebrate species because they are more sensitive to the effects of formaldehyde. In the receiving waters, these invertebrates are an integral part of the food chain for finfish.

Formalin use must be consistent with U.S. Food and Drug Administration (FDA) labeling instructions as per 21 C.F.R. § 529.1030. While the prophylactic use of formalin (i.e., drugs and chemicals used to prevent specific disease(s) in the absence of their symptoms) is not mentioned in those FDA regulations, EPA will only allow its use under the extra-label provisions of the Federal Food, Drug and Cosmetic Act as a Best Management Practice (BMP) to control the excessive use of drugs. At the McLaughlin State Fish Hatchery, formalin is used in strict compliance with FDA recommended dosages and all water from raceway series treated with formalin is discharged directly into the primary treatment lagoon for 30 minutes beyond the end of treatment to eliminate the possibility of any formalin entering directly into the tailrace water.

Formalin was not used during the course of the present permit. The hatchery has asked that the current permit limits be retained to allow for emergency use of formalin. During issuance of the previous permit, a maximum daily limit of 0.74 mg/l was applied based on MassDEP's review of available aquatic life toxicity information pertaining to formaldehyde. Consistent with antibacksliding provisions found in 40 C.F.R. § 122.44(1), this limit has been carried forward in the Draft Permit.

In the current permit, all limits and monitoring related to the use of formalin apply "when-in-use," since formalin is not typically used at the hatchery. The current permit requires "quarterly monitoring during formalin use when effluent pollutant concentrations are likely to be at a maximum." If formalin is used at the McLaughlin Fish Hatchery, the BMP plan states that "all water from each treated raceway series will be diverted directly into the primary treatment lagoon for the duration of the treatment...to eliminate the possibility of any formalin entering directly into the tailrace water." EPA agrees that this protocol will ensure that the treated effluent does not enter the receiving water prior to treatment in the aeration lagoons. However, it is unclear if quarterly monitoring at the outfall "when in use" can guarantee a representative sample of effluent from formalin use given the retention time and dilution from the lagoons. The Draft Permit limit for formaldehyde applies at the end-of-pipe at Outfall 001 consistent with the current permit, but requires that, if necessary, samples are collected from the effluent stream at the end of the formalin-treated

raceway. The permittee shall report the estimated concentration of formalin at the end of the tailrace at Outfall 001 based on calculation of the effluent flow combined with the dilution from the lagoon and other wastestreams. The water-quality based dissolved oxygen limit, which is based on Massachusetts Surface Water Quality standards at 314 CMR 4.05(3)(b)(1)(a), applies at the end-of-pipe at Outfall 001 prior to mixing with the receiving water and will be monitored when formalin is in use.

### *Whole Effluent Toxicity*

The current permit includes effluent limitations for acute whole effluent toxicity (WET) ( $LC50 \geq 100\%$ ) and chronic toxicity (C-NOEC  $\geq 37\%$ ) that apply when formalin is in use. The current permit limits were applied to ensure that there is no unacceptable toxicity in the discharge during periods when formalin is used and were based on Massachusetts Water Quality Standards regulating toxicity.

The current permit requires monitoring to be conducted quarterly when formalin is in use “when effluent pollution concentrations are likely to be at a maximum.” As discussed above, the hatchery’s 2008 Best Management Practices (BMP) plan indicates that all effluent treated with formalin is discharged to the aeration lagoons, which have a retention time of approximately 56 days. It is not clear when quarterly monitoring would be conducted in order to obtain a representative sample of formalin use for WET testing given the retention in the lagoons and mixing with through-flow effluent in the tailrace. EPA is not aware of an alternative monitoring location that would provide a sample of formalin-treated effluent that would be representative of the effluent at the point at which it mixes with the receiving water. Based on the new information provided in the 2008 BMP plan regarding the use of formalin and treatment of effluent, EPA concludes that it is not technically feasible to collect a representative sample for WET testing and has eliminated the WET limits from the Draft Permit consistent with antibacksliding regulations at 40 CFR § 122.44(l)(2)(i)(B)(1).

Although the WET limits have been eliminated, the Draft Permit continues to apply a “chemical-specific” approach to toxics control by limiting formaldehyde during formalin use. According to the *Technical Support Document for Water Quality-based Toxics Control* (TSD, EPA 1991), “the chemical-specific approach to toxics control for the protection of aquatic life uses specific chemical effluent limits in NPDES perms to control the discharge of toxics” (p. 1). In the current permit, the numeric limit for formaldehyde (discussed above) was carried forward from the previous permit, which was determined by MassDEP to protect receiving waters from toxicity based on a review of available aquatic life toxicity information pertaining to formaldehyde. EPA believes that, given the challenges associated with collecting a representative sample for WET testing, the formaldehyde limit is sufficient to ensure that aquatic life is protected from toxicity. In addition, the Draft Permit requires more frequent monitoring during formalin use (once per event rather than quarterly) at a location that is more representative of the “worst-case” effluent concentration than the current permit.

### Best Management Practices

The ELGs contained in 40 C.F.R. § 451.11 are narrative limitations that describe BMPs to which the CAAP facilities that produce more than 100,000 pound of fish annually must adhere. These practices require the permittee to develop and employ methods for feed management, removal of accumulated solids, storage of drugs and pesticides, spill prevention, management of the wastewater treatment system, maintaining accurate records, and ensuring that all personnel receive proper training.

McLaughlin Hatchery is subject to ELGs for CAAP facilities because they produce more than 100,000 pounds of fish annually. In addition, the current permit includes narrative requirements similar to the requirements of the ELGs. Part I.B. of the Draft Permit includes narrative BMPs consistent with the ELGs.

## **VII. Essential Fish Habitat**

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

Essential fish habitat is only designated for 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. Anadromous Atlantic salmon (*Salmo salar*) is the only managed species that could occur within the area which encompasses the discharge site. Given the distance between the Connecticut River and the outfall, which is approximately 25 miles upstream of the confluence of the Chicopee and Connecticut Rivers, and because Atlantic salmon fry are no longer stocked in rivers in the Commonwealth, EPA does not expect that any life stages of Atlantic salmon would be present in the Swift River at the hatchery outfall. Should Atlantic salmon be present in the Swift River, the following factors are expected to minimize any adverse impacts:

- Numeric limitations on total suspended solids, biochemical oxygen demand, and total phosphorus
- Best management practices to optimize feed ratios and minimize input of nitrogen and phosphorus
- Strict protocols and standards to minimize the need for chemotherapeutic agents and medications as well as specific limitations that apply during the use of formalin
- Formalin-treated water discharged directly to primary treatment lagoon minimizes risk of formalin entering the Swift River

EPA has determined that the Draft Permit limits adequately protect Atlantic Salmon EFH, and therefore additional mitigation is not warranted. If adverse impacts to EFH are detected as a result of this permit action, or if new information is received that changes the basis for our conclusion, NOAA Fisheries will be notified and an EFH consultation will be initiated.

## **VIII. Endangered Species Act**

Section 7(a) of the Endangered Species Act of 1973, as amended (ESA) grants authority to and imposes requirements upon Federal agencies regarding endangered or threatened species of fish, wildlife, or plants ("listed species") and habitat of such species that has been designated as critical (a

"critical habitat"). The ESA requires every Federal agency, in consultation with and with the assistance of the Secretary of Interior, to insure that any action it authorizes, funds, or carries out, in the United States or upon the high seas, is not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of critical habitat. The United States Fish and Wildlife Service (USFWS) administers Section 7 consultations for freshwater species. The National Marine Fisheries Service (NMFS) administers Section 7 consultations for marine species and anadromous fish.

### *Protected Species within the Project Area*

EPA has reviewed the federal endangered or threatened species of fish, wildlife, or plants to determine if any listed species might potentially be impacted by the re-issuance of this NPDES permit. The two listed species that have the potential to be present in the vicinity of the McLaughlin Hatchery are the shortnose sturgeon (*Acipenser brevirostrum*) and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*).

Based on the expected distribution of the species, EPA has determined that there are no Atlantic sturgeon in the action area and that the reissuance of the permit will have no effect on the species. Therefore, consultation under Section 7 of the ESA with NMFS for Atlantic sturgeon is not required.

The information on shortnose sturgeon presented below was taken primarily from the Draft Endangered Species Act Section 7 Consultation Biological Opinion (BO) for the Holyoke Hydroelectric Project (Federal Energy Regulatory Commission (FERC) Permit #2004), issued to FERC by NOAA Fisheries on September 1, 2004. Additional information was taken from the NMFS Protected Resource Division (PRD) August 9, 2007 letter to EPA. A general profile of the life history of the species follows.

Spawning of this anadromous species occurs over channel habitats containing gravel, rubble, or rock-cobble substrates (Dadswell et al. 1984; NOAA Fisheries 1998). Eggs become adhesive soon after fertilization and are not thought to drift high into the water column. Once hatched, the larvae remain on the bottom for several days. Buckley and Kynard (1981) found week old larvae to be photonegative and form aggregations with other larvae in concealment. Young-of-the-year shortnose sturgeon are believed to move downstream after hatching (Dovel 1981) but remain within freshwater habitats. Juveniles generally move upstream in spring and summer and move back downstream in fall and winter. Shortnose sturgeon typically occur in the deepest parts of rivers or estuaries where suitable oxygen and salinity values are present (Gilbert 1989).

Historically, a single population of shortnose sturgeon was believed to occur in the Connecticut River. The construction of the Holyoke Dam has effectively split this protected species into two populations. Spawning is thought to occur only in the population upstream of the dam. It is the successful downstream migration of these fish past the Holyoke Dam that maintains the downstream population. No shortnose sturgeon spawning activity is thought to occur in the Chicopee River. Known concentration and spawning areas are located either upstream of the confluence of the Chicopee and Connecticut Rivers near the Holyoke Dam, or at locations significantly downstream of Agawam, MA. The area near Agawam, which is thought to provide summer feeding and over-wintering habitat, is approximately 5.5 miles downstream of the confluence of the Chicopee and Connecticut Rivers, and a total of more than 30 river miles downstream from the hatchery's

discharge location. No part of the Chicopee River has been characterized as a concentration area for shortnose sturgeon, and although these fish have been documented in the Chicopee River, the hatchery's outfall to the Swift River is located approximately 25 miles upstream of the confluence of the Chicopee and Connecticut Rivers and nearly 8 miles upstream of the confluence of the Swift and Chicopee Rivers. Given this distance, shortnose sturgeon would not be expected in the vicinity of the discharge. In addition, shortnose sturgeon in the Chicopee River generally inhabit the deeper, channelized portion of the river as they forage for food, making it less likely that they would be observed in the relatively shallow, smaller stream at the hatchery's discharge. Still, EPA has considered the potential impacts of the hatchery's discharge on shortnose sturgeon below.

#### *Potential Impacts to Shortnose Sturgeon from Facility Operation*

The Draft Permit has been developed to ensure that discharges will not cause or contribute to exceedances of the Massachusetts Surface Water Quality Standards in the Swift River, including limitations on total suspended solids, biochemical oxygen demand, and other limits to protect aquatic life. EPA has further reviewed the discharges and effluent limits to ensure that they are specifically protective of the shortnose sturgeon.

The hatchery's discharge is comprised of untreated "overtopping" water flow from the outdoor raceways mixed with treated effluent from the aeration lagoons. The effluent is maintained at high quality to support the rearing of trout and settled solids are not discharged, but transported to the aeration lagoons.

The Draft Permit carries forward numeric limitations on total suspended solids (TSS) and biochemical oxygen demand (BOD) from the current permit (maximum daily limit of 10 mg/L) that are more stringent than the narrative requirements required by the effluent limitations guidelines for CAAP facilities. In addition, the facility consistently observes TSS and BOD effluent concentrations well under the permitted limitations (see Attachment C for reported discharge monitoring data). The Draft Permit continues to require BMPs to optimize feed ratios, which ensures that nutrient loads are minimized. The Draft Permit includes an average monthly numeric limit for phosphorus, which ensures that the hatchery continues to use low phosphorus feed, and requires the hatchery to hold the current nitrogen load. Finally, the hatchery's use of chemotherapeutic agents and medications is limited to those approved by the FDA and ensures that any drugs are used in accordance with FDA recommendations. The Draft Permit includes limitations on formaldehyde and dissolved oxygen when formalin is used. In addition, the hatchery maintains strict biosecurity procedures and standards in accordance with the New England Salmonid Health Guidelines to limit the chance that disease or parasitic infections will occur. The hatchery has not used formalin in at least the past two permit cycles.

#### *EPA's Review of the Likely Impacts*

EPA has made the preliminary determination that the only endangered species under the jurisdiction of NMFS potentially influenced by the reissuance of this permit is the shortnose sturgeon (*Acipenser brevirostrum*). It is EPA's opinion that the operation of this facility, as governed by the permit action, is not likely to adversely affect the species of concern. The following factors have been identified that are expected to minimize any adverse impacts to shortnose sturgeon adults that enter the Swift River:

- Numeric limitations on total suspended solids, biochemical oxygen demand, and total phosphorus
- Best management practices to optimize feed ratios and minimize input of nitrogen and phosphorus
- Strict protocols and standards to minimize the need for chemotherapeutic agents and medications as well as specific limitations that apply during the use of formalin
- Formalin-treated water discharged directly to primary treatment lagoon minimizes risk of formalin entering the Swift River

### *EPA Finding*

Based on the relevant information examined, EPA finds that the renewal of the McLaughlin State Fish Hatchery's NPDES permit is not likely to adversely affect the shortnose sturgeon or its critical habitat and no consultation is necessary at this time. If adverse effects do occur as a result of this permit action, or if new information becomes available that changes the basis for this determination, EPA will notify NMFS and initiate consultation.

## **IX. Monitoring**

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

The Draft Permit requires that the permittee submit all monitoring data and other reports required by the permit to EPA using NetDMR. NetDMR is a national web-based tool for regulated CWA permittees to submit DMRs electronically via a secure Internet application to U.S. EPA through the Environmental Information Exchange Network. NetDMR allows participants to discontinue mailing in hard copy forms under 40 CFR § 122.41 and § 403.12. NetDMR is accessed from the following url: <http://www.epa.gov/netdmr>. Further information about NetDMR, including contacts for EPA Region 1, is provided on this website.

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

## **X. State Certification Requirements**

EPA may not issue a permit in the Commonwealth of Massachusetts unless MassDEP certifies that the effluent limitations contained in the permit are stringent enough to assure that the discharge will not cause the receiving water to violate State Water Quality Standards. MassDEP has reviewed the Draft Permit. EPA has requested permit certification by the State pursuant to 40 CFR 124.53 and expects that the Draft Permit will be certified.

## **XI. Comment Period, Hearing Requests, and Procedures for Final Decisions**

All persons, including applicants, who believe any condition of the Draft Permit is inappropriate must raise all issues and submit all available arguments and all supporting material for their arguments in full by the close of the public comment period, to the U.S. EPA, Office of Ecosystem Protection, Attn: Danielle Gaito, 5 Post Office Square, Suite 100 (OEP06-4), Boston, Massachusetts 02109-3912 or via email to [gaito.danielle@epa.gov](mailto:gaito.danielle@epa.gov). Any person, prior to such date, may submit a request in writing for a public hearing to consider the Draft Permit to EPA and the State Agency. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public meeting may be held if the criteria stated in 40 C.F.R. § 124.12 are satisfied. In reaching a final decision on the Draft Permit, the EPA will respond to all significant comments and make these responses available to the public at EPA's Boston office.

Following the close of the comment period, and after any public hearings, if such hearings are held, the EPA will issue a Final Permit decision and forward a copy of the final decision to the applicant and each person who has submitted written comments or requested notice. Within 30 days following the notice of the Final Permit decision, any interested person may submit a petition for review of the permit to EPA's Environmental Appeals Board consistent with 40 C.F.R. § 124.19.

## **XII. EPA and MassDEP Contacts**

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

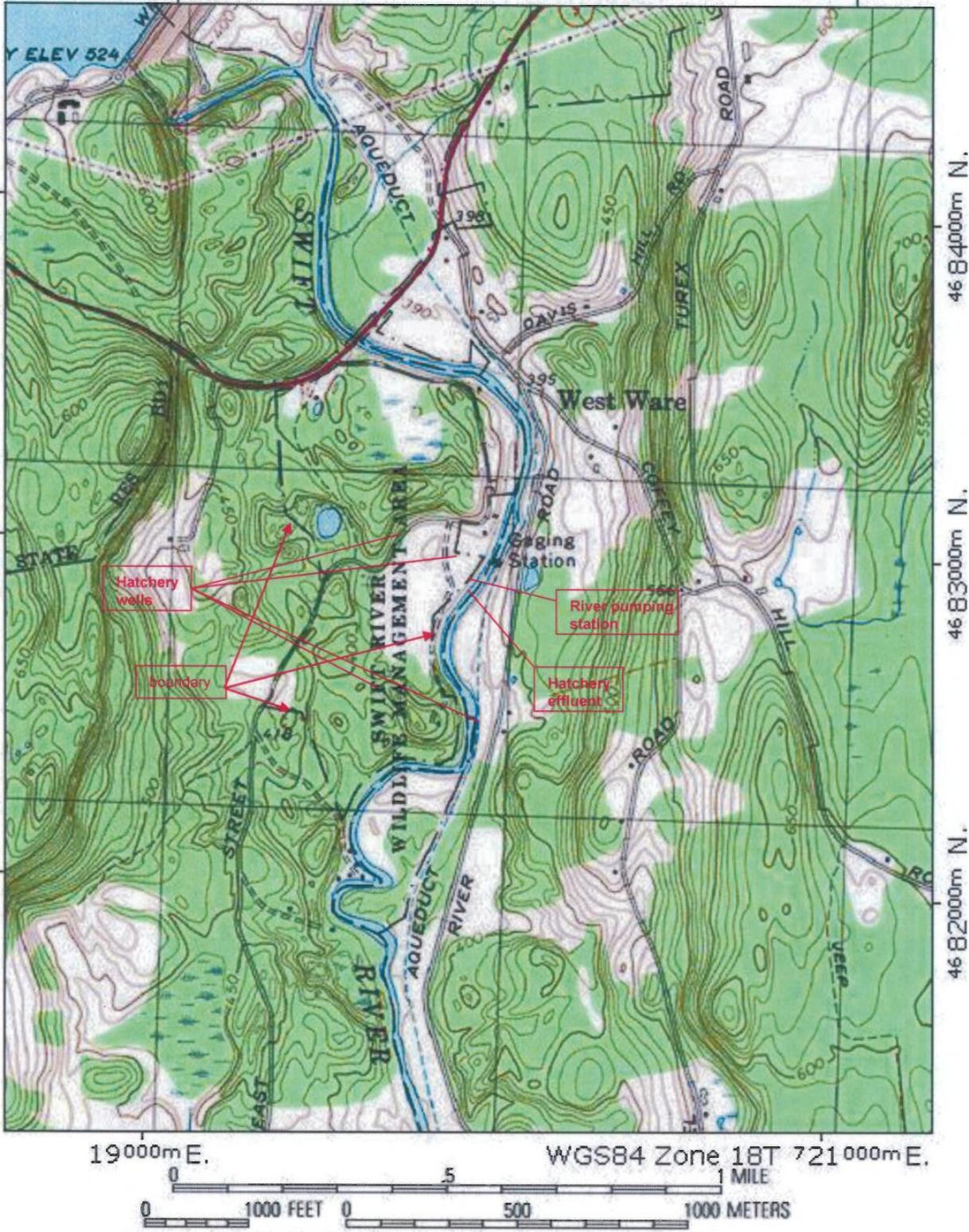
Danielle Gaito  
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[kathleen.keohane@state.ma.us](mailto:kathleen.keohane@state.ma.us)

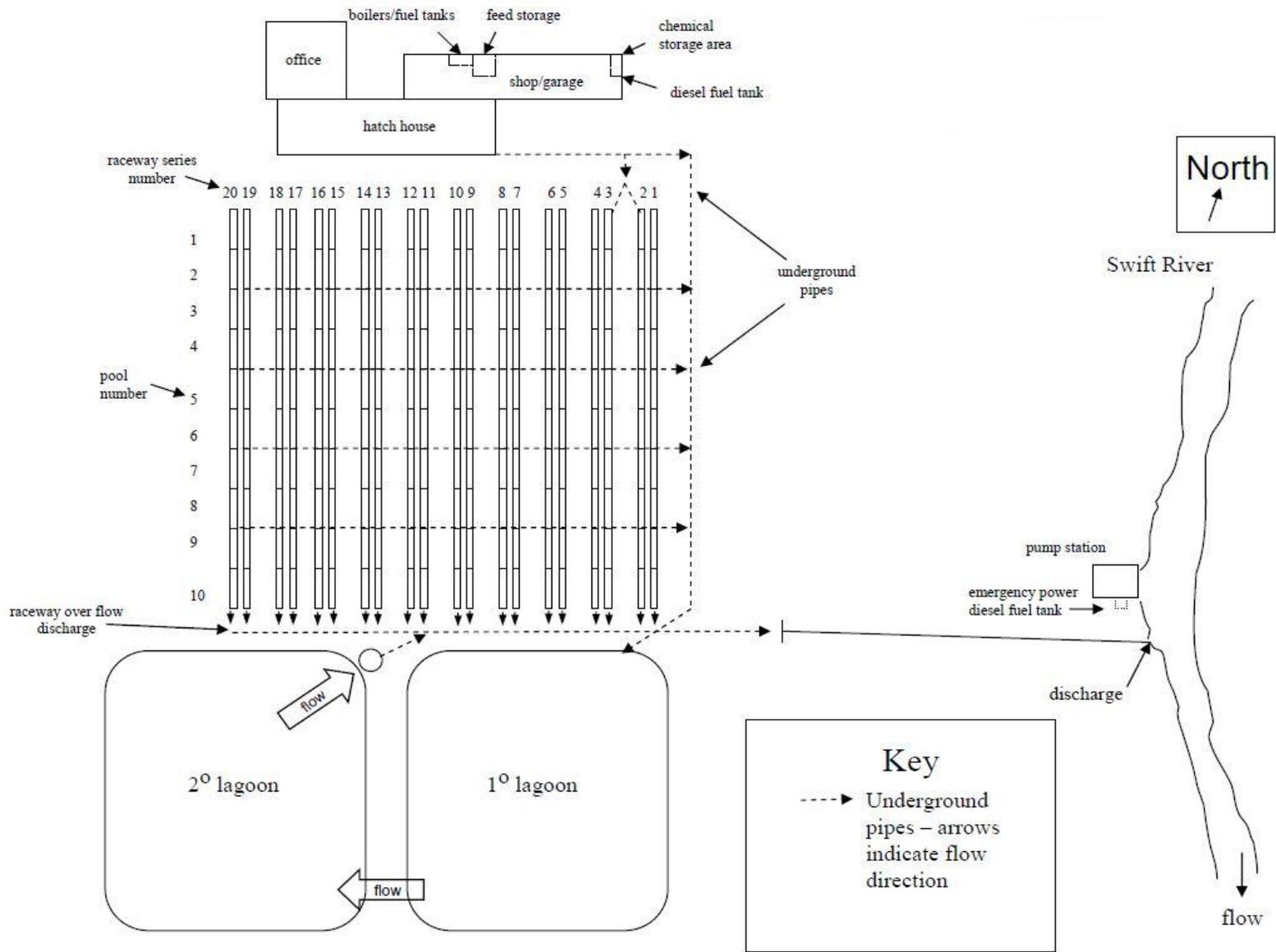
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**Ken Moraff, Acting Director**  
**Office of Ecosystem Protection**  
**U.S. Environmental Protection Agency**

Attachment A  
Site Location



### Attachment B Flow Diagram



Attachment C  
Discharge Monitoring Report Summary

Charles McLaughlin State Fish Hatchery

DMR Summary

October 2007 to June 2013

Parameter	Frequency	Units	Min	Max	Average	Permit Limit
Flow	DAILY MX	MGD	2.86	7.04	5.33	
	MO AVG	MGD	2.86	7.04	5.33	
pH	RANGE	SU	6.53	7.09	6.79	6.5 – 8.3
Solids, total suspended	DAILY MX	lb/d	30.00	239.00	121.23	584.00
	DAILY MX	mg/L	1.20	5.20	2.62	10.00
	MO AVG	lb/d				
	MO AVG	mg/L				
BOD, 5-day, 20 deg. C	DAILY MX	lb/d	52.00	223.00	128.09	584.00
		mg/L	2.05	4.76	2.80	10.00
	MO AVG	lb/d				
		mg/L				
Phosphorus	MO AVG	mg/L	0.07	0.79	0.14	0.26
Nitrogen, total	DAILY MX	mg/L	0.12	1.44	0.58	
Nitrogen, ammonia total (as N)	MO AVG	mg/L	0.09	0.61	0.28	4.20

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

UNITED STATES ENVIRONMENTAL  
PROTECTION AGENCY  
OFFICE OF ECOSYSTEM PROTECTION  
REGION I  
BOSTON, MASSACHUSETTS 02109

JOINT PUBLIC NOTICE OF A DRAFT NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE INTO THE WATERS OF  
THE UNITED STATES UNDER SECTIONS 301 AND 402 OF THE CLEAN WATER ACT,  
AS AMENDED, AND UNDER SECTIONS 27 AND 43 OF THE MASSACHUSETTS CLEAN  
WATERS ACT, AS AMENDED, AND REQUEST FOR STATE CERTIFICATION UNDER  
SECTION 401 OF THE CLEAN WATER ACT.

DATE OF NOTICE: October 30, 2013

PERMIT NUMBER: **MA0110043**

PUBLIC NOTICE NUMBER: MA-004-14

NAME AND MAILING ADDRESS OF APPLICANT:

Dr. Kenneth R. Simmons  
Chief of Hatcheries  
Division of Fisheries and Wildlife  
Commonwealth of Massachusetts  
90 East Street  
Belchertown, MA 01007

NAME AND ADDRESS OF THE FACILITY WHERE DISCHARGE OCCURS:

McLaughlin State Fish Hatchery  
90 East Street  
Belchertown, MA 01007

RECEIVING WATER: Swift River

RECEIVING WATER CLASSIFICATION: Class B

PREPARATION OF THE DRAFT PERMIT:

The U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (MassDEP) have cooperated in the development of a permit for the above identified facility. The effluent limits and permit conditions imposed have been drafted to assure compliance with the Clean Water Act, 33 U.S.C. sections 1251 et seq., the Massachusetts Clean Waters Act, G.L. c. 21, §§ 26-53, 314 CMR 3.00 and State Surface Water Quality Standards at 314 CMR 4.00. EPA has formally requested that the State certify this draft permit pursuant to Section 401 of the Clean Water Act and expects that the draft permit will be certified

## INFORMATION ABOUT THE DRAFT PERMIT:

A fact sheet (describing the type of facility; type and quantities of wastes; a brief summary of the basis for the draft permit conditions; and significant factual, legal and policy questions considered in preparing this draft permit) and the draft permit may be obtained at no cost at [http://www.epa.gov/region1/npdes/draft\\_permits\\_listing\\_ma.html](http://www.epa.gov/region1/npdes/draft_permits_listing_ma.html) or by writing or calling EPA's contact person named below:

Danielle Gaito  
U.S. Environmental Protection Agency – Region 1  
5 Post Office Square, Suite 100 (OEP06-4)  
Boston, MA 02109-3912  
Telephone: (617) 918-1297

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

## PUBLIC COMMENT AND REQUEST FOR PUBLIC HEARING:

All persons, including applicants, who believe any condition of this draft permit is inappropriate, must raise all issues and submit all available arguments and all supporting material for their arguments in full by **November 28, 2013**, to the U.S. EPA, 5 Post Office Square, Boston, Massachusetts 02109-3912. Any person, prior to such date, may submit a request in writing to EPA and the State Agency for a public hearing to consider this draft permit. Such requests shall state the nature of the issues proposed to be raised in the hearing. A public hearing may be held after at least thirty days public notice whenever the Regional Administrator finds that response to this notice indicates significant public interest. In reaching a final decision on this draft permit, the Regional Administrator will respond to all significant comments and make the responses available to the public at EPA's Boston office.

## FINAL PERMIT DECISION:

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

DAVID FERRIS, DIRECTOR  
MASSACHUSETTS WASTEWATER  
MANAGEMENT PROGRAM  
MASSACHUSETTS DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

KEN MORAFF, ACTING DIRECTOR  
OFFICE OF ECOSYSTEM PROTECTION  
ENVIRONMENTAL PROTECTION  
AGENCY – REGION 1